TETRA TECH EM INC.

MAIN FILE

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AVG

AI# 153051
PER20080001

March 17, 2008

Louisiana Department of Environmental Quality
Office of Environmental Services
Waste Permits Division
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

Attention: Mr. Bijan Sharafkhani, Administrator

Re: Waste Tire Permit Application
Louisiana GreenTech LLC
Post Office Box 1126
Cottonport, Louisiana 71327
Tetra Tech EM Inc. Project No.: 103DP4228

RECEIVED
MAR 24 2008
LDEQ

Dear Mr. Sharafkhani:

Tetra Tech EM Inc. (Tetra Tech), on behalf of Louisiana GreenTech LLC (LGT) is pleased to present the Louisiana Department of Environmental Quality (LDEQ) with this application for a new waste tire processing facility to be located in Cottonport, Louisiana. The LGT facility will use the pyrolysis process to recycle waste tires into various products.

Four (4) copies of the permit application are provided as required by Title 33, Part VII, Subpart 2, Section 10513 B. Additionally, a check in the amount of $1,250 is provided as required for the waste tire standard application fee.

Tetra Tech and LGT appreciate the opportunity to provide this information to the LDEQ. LGT looks forward to obtaining the permit and constructing the pyrolysis plant, and assisting the State with resolving its waste tire disposal/recycling issues. If you have any questions or require additional information on this matter, please contact Mr. Rubert Ward of LGT at (318) 876-3327 or me at (225) 769-9400.

Sincerely,
TETRA TECH EM INC.

Robert L. Harris, PG, CHMM
Operations Manager

Cc: Mr. Rubert Ward, Louisiana GreenTech LLC

6110 Bluebonnet Blvd., Suite B, Baton Rouge, LA 70809
Tel 225/769-9400 Fax 225/766-8855
www.ttemi.com

RECEIPT OF CHECK

Report Date/Time
3/25/2008 8:27:11 AM

AI NUMBER	153051
Company Name	Louisiana GreenTech LLC
Site Name/Location	Cottonport Waste Tire Facility
Phone Number	
Date Received	3/24/2008
Date on Check	3/5/2008
Check Number	10485
Amount Received	$1,250.00

RECEIPT GENERATED BY: Sunshine McManus

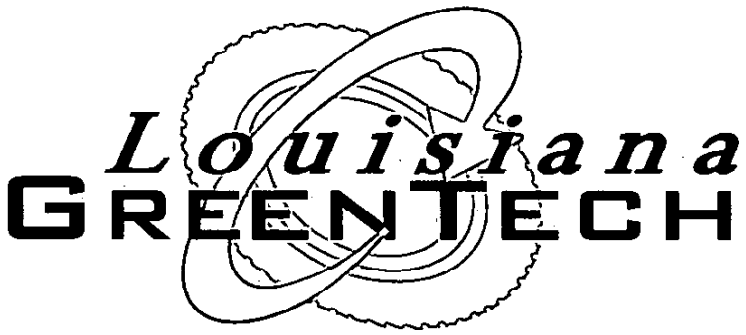
COMMENTS Fee for Standard Waste Tire Application

Media: SOLID WASTE

WASTE TIRE STORAGE AND PROCESSING PERMIT APPLICATION

For

LOUISIANA GREENTECH LLC
WASTE TIRE PYROLYSIS PLANT
960 F.P. BORDELON ROAD
COTTONPORT, LOUISIANA 71327
(318) 876-3327



Prepared By

TETRA TECH EM INC.
6110 BLUEBONNET BLVD, SUITE B
BATON ROUGE, LOUISIANA 70809
(225) 769-9400

Louisiana GREENTECH

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Louisiana GreenTech, LLC

Louisiana Department of Environmental Quality
Standard Waste Tire Permit Application

LAC 33:VII.523

§523. Part III: Additional Supplementary Information

A. The following supplementary information is required for all solid waste processing and disposal facilities. All responses and exhibits shall be identified in the following sequence to facilitate the evaluation:

1. a discussion demonstrating that the potential and real adverse environmental effects of the facility have been avoided to the maximum extent possible;

The proposed Louisiana GreenTech, LLC (LGT) facility will be located in Avoyelles Parish near Cottonport, Louisiana at 960 F.P. Bordelon Road. The proposed location of the LGT facility is shown on Figure 1. The proposed conceptual site plan is provided on the attached figures. The site plans illistrate processing equipment locations for the proposed facility. The LGT facility intends to heat waste tires in an inert atmosphere (pyrolysis), which recycles tires into high value oil, gas, carbon, and steel. The process will be conducted in a closed system in which waste tires are thermally decomposed in an oxygen free atmosphere. Steel remaining in the retort will be clean and ready for reuse. Carbon remaining in the retort will be harvested, milled, pelletized, and ready for reuse. Oil will be condensed out of gas/oil vapor for sale as marine distillate. Gas will be scrubbed and approximately 60% will be used to fuel the process.

The waste tire pyrolysis is capable of recovering nearly 100% of the used tire resource and placing the recovered products into existing markets. The process conserves resources by displacing thousands of barrels of oil per year. A reduced waste tire stream into landfills will be realized by diverting tires to the pyrolytic process.

The proposed LGT facility is shown in the aerial view provided as Figure 3. Avoyelles Correctional Facility is located south of the proposed facility as shown in Figure 3. The proposed LGT facility is otherwise surrounded by agricultural land use in a sparsely developed area of Avoyelles Parish. An estimated 4,572 persons reside within a three (3) mile radius of the site with most being located in the town of Cottonport. Office hours for the proposed LGT facility will be 07:00 to 17:00 Monday through Friday. The LGT facility proposes to accept waste tires during normal operational hours. Waste tire processing hours are proposed as twenty-four (24) hours per day, seven days per week. Waste Tire Processing hours will be determined by the facility manager. The proposed processing capacity is 3,840 tires per day or 42.2 tons per day (22 lbs/tire average unit weight).

The proposed operational plan for the LGT facility ensures that all operating procedures are in accordance with Louisiana Department of Environmental Quality (LDEQ) regulations regarding acceptance, storage, processing, disposal, and reclamation of waste tire material. Minimum buffer zones will be maintained around the proposed facility in accordance with regulations except where waived by the adjoining property owner.

Environmental review comments were requested for the proposed LGT facility through correspondence dated June 28, 2007 from state and federal environmental regulatory agencies. Responses are summarized as follows:

1. State of Louisiana Department of Cultural Recreation and Tourism: Office of Cultural Recreation and Tourism Division of Archaeology – According to Ms. Pam Breaux, State Historic Preservation Officer, no known archeological sites or historic properties will be affected by this undertaking.

2. United States Fish and Wildlife Service – According to the U.S. Fish and Wildlife Service, Louisiana Field Office, this project has been reviewed for effects to Federal trust resources under its jurisdiction and protected by the Endangered Species Act of 1973 (Act). The project, as proposed, will have no effect on those resources.

3. State of Louisiana Department of Wildlife and Fisheries Natural Heritage Program – According to Mr. Gary Lester, Coordinator, no impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are known at the proposed site within Louisiana's boundaries.

4. United States Environmental Protection Agency Water Quality Protection Division Region 6 – According to Mr. Michael Bechdol, Coordinator, US EPA Region 6 Sole Source Aquifer Program has determined that the proposed project should not have an adverse effect on the quality of groundwater underlying the project site.

5. Kisatchie – Delta Regional Planning & Development District, Inc. – According to Ms. Heather Smoak Urena, Executive Director, the proposed project offers no adverse environmental impact and is a green-friendly project that would improve environmental conditions throughout the region – based on the reduction of tires being landfilled. Further, the proposed process and industrial facilities are expected to recycle and reclaim elements that would be offered as additional energy or production in other manufacturing processes (a value-added process from waste material).

6. United States Department of Agriculture Natural Resources Conservation Service Area Resource Conservationist – According to Mr. Michael Cooley, Resource Conservationist, Alexandria Area Office, the proposed facility location is considered Prime Farmland. The proposed project will have a negligible effect on total farmland in Avoyelles Parish. The NRCS has no program that will be impacted by this project and has no objection to the proposed project. None of the soils are classified as Hydric soils.

7. Department of the Army New Orleans District, Corps of Engineers CEMVN-OD-SS – According to Ms. Karen L. Oberlies, Solicitation of Views Manager, the Department of the Army New Orleans District, Corps of Engineers does not anticipate any adverse impacts to any Corps of Engineers projects. The Corps of Engineers has determined,

based on review of recent maps, aerial photography, and soils data, the property is not in wetlands subject to its jurisdiction. However, a Department of the Army permit under Section 404 of the Clean Water Act permit will be required if the project proposes to deposit dredged or fill material into other waters of the United States present in the northern portion of the project area.

Based upon agency responses received by Tetra Tech on behalf of LGT, no environmental resources have been identified that could or might be adversely or significantly impacted with the issuance of the proposed LGT operating permit. Copies of the correspondence received from the above-referenced agencies are provided as an Attachment.

Rainfall inside of the proposed LGT facility will be discharged to the ditch located adjacent to the south property boundary. The north portion of the facility will have a water collection area north of the facility entrance and will drain to the existing ditch along the east property boundary, which ultimately flows to the ditch adjacent to the south property boundary.

The Flood Insurance Rate Map (FIRM) for the proposed LGT facility shows that the site will not be located within the 100-year flood plain. The proposed facility is located in Zone C, an area with minimal flooding risk. This is due to the proposed site's location within the Red and Atchafalaya River alluvial floodplains. A copy of the applicable FIRM is provided as Figure 4.

The intent of the proposed facility's operation plan is to reclaim all processed waste tire material that is delivered to the site for beneficial reuse purposes. It will be necessary to keep the processed material uncontaminated as possible to ensure that the processed waste tire material is as homogeneous as possible.

No pathways for release of waste tire material or associated contaminants through soil, air, water, or agricultural products have been identified for the facility. There are no known short or long term "adverse" environmental impacts that are either measurable or quantifiable for the proposed facility.

2. a cost-benefit analysis demonstrating that the social and economic benefits of the facility outweigh the environmental-impact costs;

The Waste Tire Program resulted from language included in Act 185 of the 1989 Louisiana Legislature. This Act specifically banned whole tires from landfills and required the LDEQ to promulgate regulations to promote recycling and reuse of waste tires. The adopted legislation authorizes the adoption of a LDEQ managed waste tire program that regulates tire handling and disposal activities of five (5) permitted and operating processing facilities, over 2,100 new tire dealers, over 450 used tire dealers, over 600 other generators (fleets, junkyards, etc.), and 150 authorized transporters.

The LDEQ waste tire staff, auditors, and field inspectors review sales records from tire dealers for comparison to manifest and monthly reporting documents from the regulated community. They also review waste tire manifest to ensure dealer, transporter, and processor compliance with all regulations.

End markets of processed waste tire materials currently include tire derived fuel, various civil engineering project applications, and playground surfacing. End markets are generally dependent on the type and quality of the processed waste tire material.

The proposed LGT facility is not a traditional disposal facility. The intent of the facility's operation plan is to eventually reclaim all processed waste tire material for beneficial reuse purposes. Since the processing of the waste tires is mandated and regulated by LDEQ, a traditional cost-benefit analysis is not relevant to the proposed facility.

The proposed LGT facility will serve the central and south-central regions, and other regions of Louisiana. In the event the facility is not allowed to open, waste tire transporters would have to utilize alternative processing sites, increasing significant costs of transporting the waste tires to the

processing facilities. As it currently exists, permitted waste tire processing sites are strategically located within the state.

No foreseeable adverse economic effects on adjoining properties, the community, or the environment can be identified for the proposed LGT facility. Waste tire transport vehicles should pose a minimal economic impact on highway transportation infrastructure which accesses the proposed facility.

The property on which the proposed LGT facility will be located does not have a significant commercial or marketable value. The proposed facility should not limit or impact existing agricultural land use or preclude future development of adjoining properties.

3. a discussion and description of possible alternative projects that would offer more protection to the environment without unduly curtailing nonenvironmental benefits;

The use of properly sited and operated waste tire processing facilities has been demonstrated to be a reasonable and environmentally safe method by which public entities can dispose of waste tires within the State of Louisiana. The State program addressed a serious problem with illegal waste tire dumps and reduced the volume of landfill space needed to dispose of waste tire materials.

LGT proposes to recycle waste tire materials into high value oil, gas, carbon, and steel. The process will be conducted in a closed system in which waste tires are thermally decomposed in an oxygen free atmosphere. Steel remaining in the retort will be clean and ready for reuse; carbon remaining in the retort will be harvested, milled, pelletized, and ready for reuse; oil will be condensed out of gas/oil vapor for resale as marine distillate refinery feed stock; and gas will be scrubbed and approximately 20% will be used to fuel the process.

4. a discussion of possible alternative sites that would offer more protection to the environment without unduly curtailing nonenvironmental benefits; and

The LGT site location was chosen due to its strategic location adjacent to the Cottonport Monofill Facility. The waste tire material that will be recycled at the LGT facility will be received directly from the adjacent Cottonport Monofill Facility, thus eliminating transportation costs of the waste tires had another site location been selected by LGT. The site is located in a rural area outside the city limits of the city of Cottonport away from residential areas. The surrounding area is predominantly utilized for agricultural purposes. Therefore, the LGT site is the best possible site for this project.

5. a discussion and description of the mitigating measures which would offer more protection to the environment than the facility, as proposed, without unduly curtailing nonenvironmental benefits.

The proposed LGT facility intends to recycle waste tire material. The processed material is used for several applications including:

- various rubber formulations
- extending, improving, and lowering raw material costs of neoprene, polyacrylate, EPDM, SBR, NBR, urethane, and butyl rubber
- color concentrates for thermoplastic and thermosetting resins
- improved electrical conductivity and lower oil absorption in polypropylene olefins
- pollutant removal applications (like activated carbon)
- a carrier for distillation of aliphatic and aromatic hydrocarbons, and
- a supplemental fuel source for industrial power cogeneration.

LDEQ continues to evaluate alternative measures to the waste tire program it has adopted for the State of Louisiana in accordance with enacting legislation adopted in 1989 that identified waste tire disposal as a significant problem for the state, thereby directing LDEQ to develop a financially feasible solution.

The proposed facility will operate under stringent regulations as detailed in the Process Description document. No foreseeable environmental impacts have been identified for the proposed facility that are considered significant or measurable, thus requiring mitigation measures be adopted for the facility.

Until and unless technology develops to the point to make rubber tires unnecessary, a permitted processing and recycling facility will be required for waste tires. The proposed LGT operational permit application indicates the proposed facility will not create any adverse impacts to the environment and, therefore, should be approved. The well-documented alternative beneficial reuses for the processed waste tire material support the issuance of the proposed facility's operational permit.

B. **An application for renewal or extension of an existing permit shall not be subject to submittal of the additional supplementary information required in Subsection A of this Section, unless said renewal or extension encompasses changes that need to be addressed as major applications.**

ATTACHMENTS

Louisiana Department of Environmental Quality
Standard Waste Tire Permit Application

LAC 33:VII.10517

Each applicant requesting a standard permit in accordance with these regulations shall complete the permit application, including, but not limited to, the information included in this Section and submit it to the Office of Environmental Services, Permits Division.

A. Processing Facility. The permit application shall include:

1. the name of the applicant;

Louisiana GreenTech, LLC

2. the name and phone number of the owner/contact;

Rubert Ward, President (318) 876-3327

3. the business address, including city, state, parish, and zip code;

960 F.P. Bordelon Road, Cottonport, Avoyelles Parish, Louisiana 71327

4. the location of the processing/collection facility, including section, township, and range;

Section 12 Township 1 South Range 4 East

5. the business telephone number;

(318) 876-3327

Louisiana GREENTECH

6. **the federal and state tax identification number;**

Federal ID Number 205982971; State ID Number 7227499-001

7. **the name, address, and phone number of a contact person in case of emergency, other than the individual specified Paragraph A.2 of this Section;**

Ralph Osterling, CEO 1361 Columbus, Burlingame, CA 94010
(650) 347-1817

8. **a certification in writing that all the information provided in the application and in accordance with the application is true and correct. Providing false and incorrect information may result in criminal or civil enforcement. The applicant shall also provide the site master plan, including property lines, buildings, facilities, excavations, drainage, roads, and other elements of the process system employed, certified by a registered engineer licensed in the state of Louisiana;**

Certification:
I have personally examined and am familiar with the information provided in the application. I hereby certify, under penalty of law, that the information provided in the application and in accordance with the application is true and correct to the best of my knowledge. I am aware that providing false or incorrect information may result in criminal or civil enforcement.

Signature _____

Typed Name Rubert Ward

Title President

Date 3/05/2008

The proposed location of the Louisiana GreenTech, LLC (LGT) facility is shown on Figure 1. A conceptual site master plan, that will be certified by a registered engineer licensed in the State of Louisiana, that illustrates property lines, buildings, facilities, excavations, drainage, roads, and other elements of the process system employed at the site is provided as Figure 2.

9. **a copy of written notification to the appropriate local governing authority, stating that the site is to be used as a waste tire processing and/or collection facility;**

A copy of the written notification addressed to the Avoyelles Parish Police Jury (APPJ) stating the use of the LGT site as a waste tire processing plant, and the correspondence from the APPJ supporting the project is attached.

10. **written documentation from the appropriate local governing authority, that the facility is in compliance with local zoning and permitting requirements;**

LGT is located outside of the Town of Cottonport corporate limits. Correspondence received from the APPJ dated November 13, 2007, indicates the facility is in compliance with local zoning and permitting requirements. A copy of the correspondence is attached.

11. **written documentation from the property owner granting approval for use of the property as a waste tire processing and /or collection facility, if property owner is other than the applicant;**

LGT is a joint venture between Integrated Resources Recovery, Inc. and the Cottonport Monofill, LLC. The LGT facility is located on property owned by Mr. Rubert Ward of the Cottonport Monofill, LLC. A notarized letter from Mr. Rubert Ward stating his approval LGT facility is attached.

12. **proof of publications of Notice of Intent to submit an application for a standard waste tire permit;**

A copy of the Public Notice placed in the local newspaper of intent to submit a permit application to the Louisiana Department of Environmental Quality, Waste Permits Division, for the proposed waste tire processing facility is attached.

13. **a letter of compliance and certification of premises and buildings from the state fire marshal;**

Final detailed design drawings have not been prepared. The conceptual layout of the proposed facility is illustrated on the attached figures. Once permitted by the LDEQ, LGT will prepare the final detailed drawings and submit them to the Louisiana State Fire Marshal's office for review and approval. A letter of compliance and certification of premises and buildings from the State Fire Marshal will be provided to the LDEQ upon receipt from the State Fire Marshal's Office. LGT will not occupy the facility until approval from the State Fire Marshal is received and will not operate the facility until receipt of LDEQ approval to begin operations.

14. **an operational plan addressing the following;**

- **a) facility access and security;**
- **b) waste tire acceptance plan, to count, record, and monitor incoming quantities of waste tires;**
- **c) method to control water run-on/off;**
- **d) days and hours of operation;**
- **e) waste tire storage methods:**
  - **i. dimensions of waste tire piles;**
  - **ii. maximum number of waste tires and volume of waste tire material to be stored at any one time. The total amount of waste tires and volume**

of waste tire material shall not exceed 60 times the daily capacity of the processing unit;

iii. width of fire lanes;

iv. method of storage to exclude standing water, including inside storage;

v. type of access roads and buffer zones; and,

vi. emergency control plans in case of fire or accident, etc.;

f) a detailed description of the waste tire processing method to be used, including daily capacity;

g) site grounds maintenance and disease vector control to minimize vector-breeding areas and animal attraction:

i. controlling fly, mosquito, and other insect emergence and entrance;

ii. controlling rodent burrowing for food and harborage; and,

iii. controlling bird and animal attraction;

h) buffer zones;

i) method to store waste tire material in detail;

j) end market of the waste tire material; and,

k) method to control and/or treat any process water;

A copy of the LGT Operational Plan is provided in Appendix A. The document addresses each of the line items a through k.

15. **evidence of general liability insurance in the amount of $1 million provided by an insurer who is admitted, authorized, or eligible to conduct insurance business in Louisiana;**

LGT will provide a copy of its General Liability Insurance Policy meeting the permit requirements to the Louisiana Department of Environmental Quality within 30 days after receipt of the Standard Waste Tire Permit.

16. **site closure plan to assure clean closure. The closure plan must be submitted as a separate section with each application. The closure plan for all facilities must ensure clean closure and must include the following:**

    a) **the method to be used and steps necessary for closing the facility;**
    b) **the estimated cost of closure of the facility, based on the cost of hiring a third party to close the facility at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive;**
    c) **an estimate of the maximum inventory of whole waste tires and waste tire material on-site at any one time over the active life of the facility;**
    d) **a schedule for completing all activities necessary for closure; and**
    e) **the sequence of final closure as applicable;**

A Site Closure Plan meeting the requirements of the LDEQ is provided in Appendix B. The Closure Plan addresses each of the line items a through e.

17. **site closure financial assurance fund;**

An Irrevocable Standby Letter of Credit will be obtained and submitted to the Louisiana Department of Environmental Quality, Office of Management and Finance, Financial Services

Division for $50,688 to ensure payment of estimated closure costs identified for the site as presented in the Closure Plan within 30 days after receipt of the Waste Tire Operating Permit from the LDEQ.

18. **plans, specifications, and operations represented and described in the permit application or permit modifications for all facilities must be prepared under the supervision of and certified by a registered engineer licensed in the State of Louisiana;**

Facility plans, specifications, and operations represented in this permit application have and will be prepared by Tetra Tech and URS. URS is the engineering firm retained by LGT to prepare facility drawings, specifications, and operational plans for the waste tire processing facility. Final detailed design drawings have not been prepared. The conceptual layout and design of the proposed facility are provided on the attached figures. Once permitted by the LDEQ, LGT will have the final detailed drawings certified by a Louisiana registered engineer and submitted to the Louisiana State Fire Marshal's office for review and approval. A letter of compliance and certification of premises and buildings from the State Fire Marshal will be provided to the LDEQ upon receipt from the State Fire Marshal's Office. LGT will not occupy the facility until approval from the State Fire Marshal is received and will not operate the facility until receipt of LDEQ approval to begin operations. Operational, closure, and fire and emergency control plans are provided as attachments.

19. **certification. The applicant must provide and sign legal certification that all information provided in the application is true and correct with the knowledge of the possibility of punishment under the law for false information;**

20. **signature and date; and,**
21. **name of authorized agent of process, if applicable.**

I have personally examined and am familiar with the information submitted in the attached document, and I hereby certify under penalty of law that this information is true, accurate, and complete to the best of my knowledge. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment.

Signature: _____

Date: 3/05/2008

Type Name and Title: Rubert Ward, President

B. Waste Tire Collection Center. Waste tire processors or other persons may operate a waste tire collection center in accordance with LAC 33:VII.10527. All information required in Subsection A of this Section must be provided in a permit application for each waste tire collection center.

Waste tires will be transferred from the Cottonport Monofill collection facility located adjacent to the LGT facility. LGT is not a waste tire collection center. Waste tires will be properly stored at the designated storage areas until processed by LGT. Therefore, section LAC:VII.10517.B. is not applicable.

C. Governmental Agencies. Government agencies intending to operate collection centers and/or tire processing equipment for the purposes of volume reduction prior to disposal will not be required to possess permits provided that:

1. **the governmental agency collection centers shall be located on property owned or otherwise controlled by the governmental agency, unless otherwise authorized by the department;**
2. **governmental agency collection centers shall be attended during operational hours and have controlled ingress and egress during non-operational hours;**
3. **governmental agency collection center personnel shall witness all loading and unloading of waste tires;**
4. **governmental agency collection centers may accept tires from roadside pickup, from right-of-way, individual residents, and unauthorized waste tire piles. For the tires from unauthorized waste tire piles to be eligible for the $1.50 per 20 pounds marketing payment to permitted processors as indicated in LAC 33: VII.10535, the governmental agency must notify the Office of Management and Finance, Financial Services Division, in writing, of the agency's intent prior to removing the tires from said site;**
5. **governmental agencies shall develop fire control plans and disease vector control plans for the collection center and/or tire processing equipment; and,**
6. **governmental agencies shall satisfy the requirements of LAC 33:VII.10509 and 10533.**

LGT is not a governmental agency and, therefore, LAC:VII.10517.C. is not applicable.

ATTACHMENTS

Louisiana GREENTECH

P. O. Box 1126
Cottonport, Louisiana
71327

November 1, 2007

Mr. Mark Borrel
Avoyelles Parish Police Jury
President
301 North Main St., Suite D
Marksville, LA. 71351

Re: Louisiana GreenTech, LLC
Waste Tire Pyrolysis Facility

Dear Mr. Borrel:

On behalf of Louisiana GreenTech, LLC (LGT), I am preparing a permit application for submission to the Louisiana Department of Environmental Quality (LDEQ) to construct and operate a Waste Tire Pyrolysis Facility located adjacent to the Cottonport Monofill Facility as indicated on the attached map. The Louisiana Legislature finds that removal of waste tires from the solid waste stream going into landfills currently being utilized for the disposal of solid waste in Louisiana is necessary to protect our environment; prevent nuisances; protect the public health, safety and welfare; extend the usable life of the facilities; aid in the conservation and recovery of valuable resources; and to conserve energy by efficient reuse of these products, thereby benefiting all citizens of Louisiana.

Louisiana GreenTech intends to heat waste tires in an inert atmosphere (Pyrolysis), which recycles tires into high value oil, gas, carbon, steel and energy. The process will be conducted in a closed system in which waste tires are thermally decomposed in a nitrogen atmosphere. Steel remaining in the retort will be clean and ready for reuse. Carbon remaining in the retort will be harvested, milled, palletized, and ready for reuse. Oil will be condensed out of gas/oil vapor for resale as marine distillate refinery feed stock. Gas will be scrubbed and approximately 20% will be used to fuel the process.

The waste tire Pyrolysis process is capable of recovering nearly 100% of the used tire resource and placing the recovered products into existing markets. The process conserves resources by displacing thousands of barrels of oil per year. Electrical energy can be produced for cogeneration or sale, and a reduced waste tire stream into landfills will be realized by diverting tires to the pyrolytic process.

The Louisiana GreenTech facility will provide direct benefits to Avoyelles Parish. Used tires generated in Louisiana and Avoyelles Parish can be processed in an environmentally sound manner. Residents of

Louisiana GREENTECH

P. O. Box 1126
Cottonport, Louisiana
71327

Avoyelles Parish will not have to pay high transportation rates for disposal of their tires by other approved processors, thereby potentially reducing the number of used tires illegally dumped in the local area. The facility will process approximately 1.4 million tires per year, and create approximately 40 new jobs. Louisiana and Avoyelles Parish will be the first to deploy this clean, environmentally positive technology, and be viewed as a world leader in addressing this important resource.

In order to fulfill the necessary requirements of the permit application, Louisiana GreenTech is required to provide proof of written notification to the appropriate local governing authority that the site is to be used as a waste tire pyrolysis facility. Louisiana GreenTech requests a review and approval of this proposed facility. A draft resolution is enclosed for consideration by the Avoyelles Parish Police Jury at the next regularly scheduled Police Jury meeting.

Furthermore, Louisiana GreenTech's permit application requires written documentation from the local governing authority, stating that the facility is in compliance with local zoning and permitting requirements. Should the Avoyelles Parish Police Jury approve the waste tire Pyrolysis facility, Louisiana GreenTech would appreciate a brief letter of correspondence confirming compliance with parish zoning and permitting requirements.

Louisiana GreenTech appreciates the time and consideration of the Avoyelles Parish Police Jury regarding this matter. Should the Avoyelles Parish Police Jury have any questions or concerns regarding this information, please do not hesitate to contact me.

Yours very truly,

Rubert Ward
President
Louisiana GreenTech, LLC

Enclosure: Draft Resoulution for Consideration

Xc: Ralph Osterling

RESOLUTION

BY

THE AVOYELLES PARISH POLICE JURY

WHEREAS, Louisiana GreenTech, LLC, represented by Rubert Ward, has submitted a request to the Avoyelles Parish Police Jury for local authorization to construct a Waste Tire Pyrolysis facility to be located on F. P. Bordelon Road in Avoyelles Parish; and.

WHEREAS, the Louisiana GreenTech, LLC request has been reviewed and we find that the proposed processing facility will create employment opportunities for the local community and provide the residents of Avoyelles Parish with a nearby facility to process used tires and assist in the elimination of promiscuous dumping of said tires within our Parish and surrounding areas.

NOW THEREFORE BE IT RESOLVED, that the Avoyelles Parish Police Jury hereby endorses the proposed Waste Tire Pyrolysis facility and authorizes its development within Avoyelles Parish in accordance with all policies, rules and regulations as established for such facilities by the Louisiana Department of Environmental Quality.

Passed, approved and adopted this 13th of November, 2007.

Mark Borrel

Mark Borrel, President

Allison B. Laborde

Allison Laborde, Secretary-Treasurer

CERTIFICATE

I, Allison Laborde, Secretary-Treasurer of the Avoyelles Parish Police Jury, do hereby certify that the above and foregoing constitutes a true and correct copy of a Resolution passed and adopted by the Avoyelles Parish Police Jury, on November 13, 2007.

Allison B. Laborde

Allison Laborde, Secretary-Treasurer

COTTONPORT MONOFILL

P.O. Box 1127
960 F. P. BORDELON ROAD
COTTONPORT, LOUISIANA 71327
PHONE 318-876-3327
FAX 318-876-3277
www.cottonport-monofill.com

December 10, 2007

Louisiana Department of Environmental Quality
Office of Environmental Services
Waste Permits Division
Post Office Box 4313
Baton Rouge, LA 70821

RE: Buffer Zone Reduction
Louisiana GreenTech LLC
Cottonport, Louisiana

Dear Sir or Madam:

Ward Enterprise, LLC is the sole owner of the Cottonport Monofill. Cottonport Monofill hereby acknowledges that the 100 feet buffer zone requirement between the Cottonport Monofill property and the Louisiana GreenTech facility may be reduced or eliminated. The Cottonport Monofill will be working with Louisiana GreenTech by providing waste tires for thermal conversation at their facility. Therefore, I have no objection to the Louisiana GreenTech facility being located adjacent to the Cottonport Monofill.

If you have any questions or concerns regarding this information, please contact me at 318-876-3327.

Sincerely,

Rubert Ward
President
Cottonport Monofill

STATE OF LOUISIANA
PARISH OF AVOYELLES
Acknowledged before me this 10th day of December, 2007.

Adriane Blackledge, Notary
I.D. #028321

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THE ADVOCATE

PROOF OF PUBLICATION

The hereto attached notice was published in THE ADVOCATE, a daily newspaper of general circulation published in Baton Rouge, Louisiana, and the official Journal of the State of Louisiana, the City of Baton Rouge, and the Parish of East Baton Rouge, in the following issues:

02/29/08

Susan A. Bush, Public Notices Clerk

Sworn and subscribed before me by the person whose signature appears above:

February 29, 2008

Pegeen Singley, Notary Public, #66565
My Commission Expires: Indefinite
Baton Rouge, Louisiana

PUBLIC NOTICE
OF
INTENT TO SUBMIT PERMIT APPLICATION

LOUISIANA GREEN TECH LLC
COTTONPORT, AVOYELLES PARISH, LOUISIANA

Notice is hereby given that Louisiana Green Tech LLC does intend to submit to the Department of Environmental Quality, Office of Environmental Services, Waste Permits Division, an application for a permit to operate a waste tire processing facility in Avoyelles Parish, Range 4 East, Township 1 South, Section 12, which is approximately 3 miles east of Cottonport, Louisiana.

Comments concerning the facility may be filed with the secretary of the Louisiana Department of Environmental Quality at the following address:
Louisiana Department of Environmental Quality
Office of Environmental Services
Waste Permits Division
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

3829224-feb 29-1t

TETRA TECH EM INC 3829224
BOB HARRIS
6110 BLUBONNET BLVD STE B
BATON ROUGE LA 70809

STATE OF LOUISIANA
PARISH OF AVOYELLES

BEFORE ME, the undersigned authority, a Notary Public in and for the Parish of Avoyelles, State of Louisiana, personally came and appeared Renee Slocum well and personally known to me, after duly sworn, deposes and says: That she is the Legal Manager of The Marksville Weekly News, published in the City of Marksville, Louisiana; that the said notice, a clipping attached below, and made part of this affidavit, was published in the regular issue of said newspaper 1 times, namely on March 6, 2008 .

The Marksville Weekly News

Renee Slocum

Public Notice Section

Sworn to and subscribed before me,

This 18 day of March A.D., 2008

Margaret M. Slocum

Notary Public

MARGARET M. SLOCUM
NOTARY PUBLIC-LOUISIANA
PARISH OF AVOYELLES
NOTARY ID# 022169

PUBLIC NOTICE
OF
INTENT TO SUBMIT PERMIT APPLICATION
LOUISIANA GREEN TECH LLC
COTTONPORT, AVOYELLES PARISH, LOUISIANA

Notice is hereby given that Louisiana Greet Tech LLC does intend to submit to the Department of Environmental Quality, Office of Environmental Services, Waste Permits Division, an application for a permit to operate a waste tire processing facility in Avoyelles Parish, Range 4 East, Township 1 South, Section 12, which is approximately 3 miles east of Cottonport, Louisiana.

Comments concerning the facility may be filed with the secretary of the Louisiana Department of Environmental Quality at the following address:

Louisiana Department of Environmental Quality
Office of Environmental Services
Waste Permits Division
Post Office Box 4313
Baton Rouge, Louisiana 70821-4313

TETRA TECH

June 28, 2007

U.S. Fish and Wildlife Service
Louisiana Ecological Services Field Office
Mr. Russell Watson, Field Supervisor
646 Cajundome Boulevard, Suite 400
Lafayette, Louisiana 70506

RE: Louisiana GreenTech, LLC
Waste Tire Pyrolysis Facility
960 FP Bordelon Road
Cottonport, Avoyelles Parish, Louisiana
Louisiana Department of Environmental Quality Permit Application

Dear Mr. Watson:

Tetra Tech EM Inc. (Tetra Tech), on behalf of Louisiana GreenTech, LLC (GreenTech), is preparing a permit application for submission to the Louisiana Department of Environmental Quality (LDEQ) to construct and operate a Waste Tire Pyrolysis Facility located adjacent to the Cottonport Monofill Facility as indicated on the attached map. The Louisiana Legislature finds that removal of waste tires from the solid waste stream going into landfills currently being utilized for the disposal of solid waste in Louisiana is necessary to protect our environment; prevent nuisances; protect the public health, safety, and welfare; extend the usable life of the facilities; aid in the conservation and recovery of valuable resources; and to conserve energy by efficient reuse of these products, thereby benefiting all citizens of Louisiana.

Tetra Tech is preparing a permit application on behalf of GreenTech for submission to the LDEQ. In order to fulfill the necessary requirements of the permit application, GreenTech is required to solicit your agency's comments regarding potential impacts the facility may have on Federal trust resources. Tetra Tech has attached a Proposed Site Location Map indicating the proposed site location to assist with your review.

GreenTech intends to heat waste tires in an inert atmosphere (pyrolysis), which recycles tires into high value oil, gas, carbon, steel and energy. The process will be conducted in a closed system in which waste tires are thermally decomposed in a nitrogen atmosphere. Steel remaining in the retort will be clean and ready for reuse. Carbon remaining in the retort will be harvested, milled, pelletized, and ready for reuse. Oil will be condensed out of gas/oil vapor for sale as marine distillate. Gas will be scrubbed and approximately 60% will be used to fuel the process.

TetraTech EM Inc.
6110 Bluebonnet Boulevard, Suite B, Baton Rouge, LA 70809
Main 225.769.9400 Fax 225.766.8855 www.tetratech.com

P4228

The waste tire pyrolysis is capable of recovering nearly 100% of the used tire resource and placing the recovered products into existing markets. The process conserves resources by displacing thousands of barrels of oil per year. Electrical energy can be produced for cogeneration or sale, and a reduced waste tire stream into landfills will be realized by diverting tires to the pyrolytic process.

Tetra Tech EM Inc. and Louisiana GreenTech, LLC appreciate your assistance with this matter. Should you have any questions or concerns regarding this information, please contact Tetra Tech at (225) 753-4949.

Sincerely,
TETRA TECH EM INC.

Robert L. Harris, PG, CHMM
Operations Manager

Attachment: Proposed Site Location Map

cc: Mr. Rubert Ward, President, Louisiana GreenTech, LLC

This project has been reviewed for effects to Federal trust resources under our jurisdiction and currently protected by the Endangered Species Act of 1973 (Act). The project, as proposed,
(√) Will have no effect on those resources.
( ) Is not likely to adversely affect those resources.
This finding fulfills the requirements under Section 7(a)(2) of the Act.

Acting Supervisor — Date July 2, 2007
Louisiana Field Office
U.S. Fish and Wildlife Service

SITE MAY CONTAIN WETLANDS. Contact the U.S. Army Corps of Engineers for a jurisdictional determination.
District: New Orleans, LA
Telephone No. 504-862-1288

KATHLEEN BABINEAUX BLANCO
GOVERNOR

State of Louisiana
DEPARTMENT OF WILDLIFE AND FISHERIES
OFFICE OF WILDLIFE

BRYANT O. HAMMETT, JR.
SECRETARY
L. BRANDT SAVOIE
DEPUTY ASSISTANT SECRETARY

Date	July 12, 2007
Name	Robert L. Harris
Company	Tetra Tech EM Inc.
Street Address	6110 Bluebonnet Blvd, Suite B
City, State, Zip	Baton Rouge, LA 70809
Project	Louisiana Green Tech, LLC Avoyelles Parish, LA
Invoice Number	07071201

Personnel of the Habitat Section of the Fur and Refuge Division have reviewed the preliminary data for the captioned project. After careful review of our database, no impacts to rare, threatened, or endangered species or critical habitats are anticipated for the proposed project. No state or federal parks, wildlife refuges, scenic streams, or wildlife management areas are known at the specified site within Louisiana's boundaries.

The Louisiana Natural Heritage Program (LNHP) has compiled data on rare, endangered, or otherwise significant plant and animal species, plant communities, and other natural features throughout the state of Louisiana. Heritage reports summarize the existing information known at the time of the request regarding the location in question. The quantity and quality of data collected by the LNHP are dependent on the research and observations of many individuals. In most cases, this information is not the result of comprehensive or site-specific field surveys; many natural areas in Louisiana have not been surveyed. This report does not address the occurrence of wetlands at the site in question. Heritage reports should not be considered final statements on the biological elements or areas being considered, nor should they be substituted for on-site surveys required for environmental assessments. LNHP requires that this office be acknowledged in all reports as the source of all data provided here. If at any time Heritage tracked species are encountered within the project area, please contact the LNHP Data Manager at 225-765-2643. If you have any questions, or need additional information, please call 225-765-2357.

Sincerely,

Gary Lester, Coordinator for
Natural Heritage Program

KISATCHIE-DELTA

Regional Planning & Development District, Inc.

516 Parliament Court, Alexandria, LA 71303 www.kdelta.org (318) 487-5454 ph / (318) 487-5451 fax / kdelta@kricket.net

An Equal Opportunity Provider Serving the parishes of Avoyelles, Catahoula, Concordia, Grant, LaSalle, Rapides, Vernon and Winn

Celebrating 40 years of Regional Economic Development, 1967-2007

July 20, 2007

Robert L. Harris, PG, CHMM
Operations Manager
Tera Tech EM Inc.
6110 Bluebonnet Boulevard, Suite B
Baton Rouge, LA 70809

RE: LDEQ Process
Louisiana GreenTech, LLC
Clearinghouse Comments, District 6

FAX: 225-766-8855

Dear Mr. Harris:

Kisatchie-Delta Regional Planning & Development District, Inc. is knowledgeable of the proposed project and its benefits and offers its support to Louisiana Green Tech, LLC in developing the waste tire pyrolysis facility.

I have visited the site and reviewed the submitted information, along with additional information supplied by Mr. Rubert [illegible]ard, President of Louisiana Green Tech, LLC. I believe the proposed project to offer no adverse environmental impact and to be a green-friendly project that would improve environmental conditions throughout the region – based on the reduction of tires being land-filled. Further, the proposed process and industrial facilities are expected to recycle and reclaim elements that would be offered as additional energy or production in other manufacturing processes, so this becomes a value-added process from waste material.

We offer no objections.

Sincerely,

Heather Smoak Urena, CEcD
Executive Director

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1445 ROSS AVENUE, SUITE 1200
DALLAS, TX 75202-2733

July 26, 2007

Mr. Robert L. Harris, PG, CHMM
Operations Manager
Tetra Tech EM, Inc.
6110 Bluebonnet Blvd.
Ste. B
Baton Rouge, LA 7809

Dear Mr. Harris:

Thank you for your June 28, 2007, letter requesting our evaluation of the potential environmental impacts which might result from the following project:

Construct and Operate
Louisiana Green Tech, LLC
Waste Tire Pyrolysis Facility
960 FP Bordelon Road
Avoyelles Parish
Cottonoport, Louisiana

The project, proposed is located on the Chicot aquifer system which has been designated a sole source aquifer by the EPA. It is thus potentially eligible for review by EPA. Based on the information provided for the project, we have determined that the project, as proposed, should not have an adverse effect on the quality of the ground water underlying the project site.

This approval of the proposed project does not relieve the applicant from adhering to other State and Federal requirements, which may apply. This approval is based solely upon the potential impact to the quality of ground water as it relates to the EPA's authority pursuant to section 1424(e) of the Safe Drinking Water Act.

If you have any questions on this letter or the sole source aquifer program please contact me at (214) 665-7133.

Sincerely yours,

Michael Bechdol, Coordinator
Sole Source Aquifer Program
Ground Water/UIC Section

cc: Howard Fielding, LDEQ

DEPARTMENT OF THE ARMY
NEW ORLEANS DISTRICT, CORPS OF ENGINEERS
P. O. BOX 60267
NEW ORLEANS, LOUISIANA 70160-0267

REPLY TO
ATTENTION OF

AUG 23 2007

Operations Division
Operations Manager,
Completed Works

Mr. Robert L. Harris
Tetra Tech EM Inc.
6110 Bluebonnet Boulevard, Suite B
Baton Rouge, Louisiana 70809

Dear Mr. Harris:

This is in response to your Solicitation of Views request dated June 28, 2007, concerning the construction and operation of a Waste Tire Pyrolysis Facility at Cottonport, Louisiana, in Avoyelles Parish.

We have reviewed your request for potential Department of the Army regulatory requirements and impacts on any Department of the Army projects.

We do not anticipate any adverse impacts to any Corps of Engineers projects.

Based on review of recent maps, aerial photography, and soils data, we have determined that this property is not in wetlands subject to Corps of Engineers jurisdiction. However, a Department of the Army permit under Section 404 of the Clean Water Act permit will be required if you propose to deposit dredged or fill material into other waters of the United States present in the northern portion of the project area.

Off-site locations of activities such as borrow, disposals, haul-and detour-roads and work mobilization site developments may be subject to Department of the Army regulatory requirements and may have an impact on a Department of the Army project.

This determination of permit requirements is valid for a period of five years from the date of this letter unless new information warrants a revision prior to the expiration date. In addition, any changes or modifications to the proposed project may require a revised determination.

Please contact Dr. John Bruza, of our Regulatory Branch by telephone at (504) 862-1288, or by e-mail at John.D.Bruza@mvn02.usace.army.mil for questions concerning wetlands determinations or need for on-site evaluations. Questions concerning regulatory permit requirements may be addressed to Mr. Ronnie Duke by telephone at (504) 862-2261 or by e-mail at Ronnie.W.Duke@mvn02.usace.army.mil.

Future correspondence concerning this matter should reference our account number MVN-2007-03209-SQ. This will allow us to more easily locate records of previous correspondence, and thus provide a quicker response.

Sincerely,

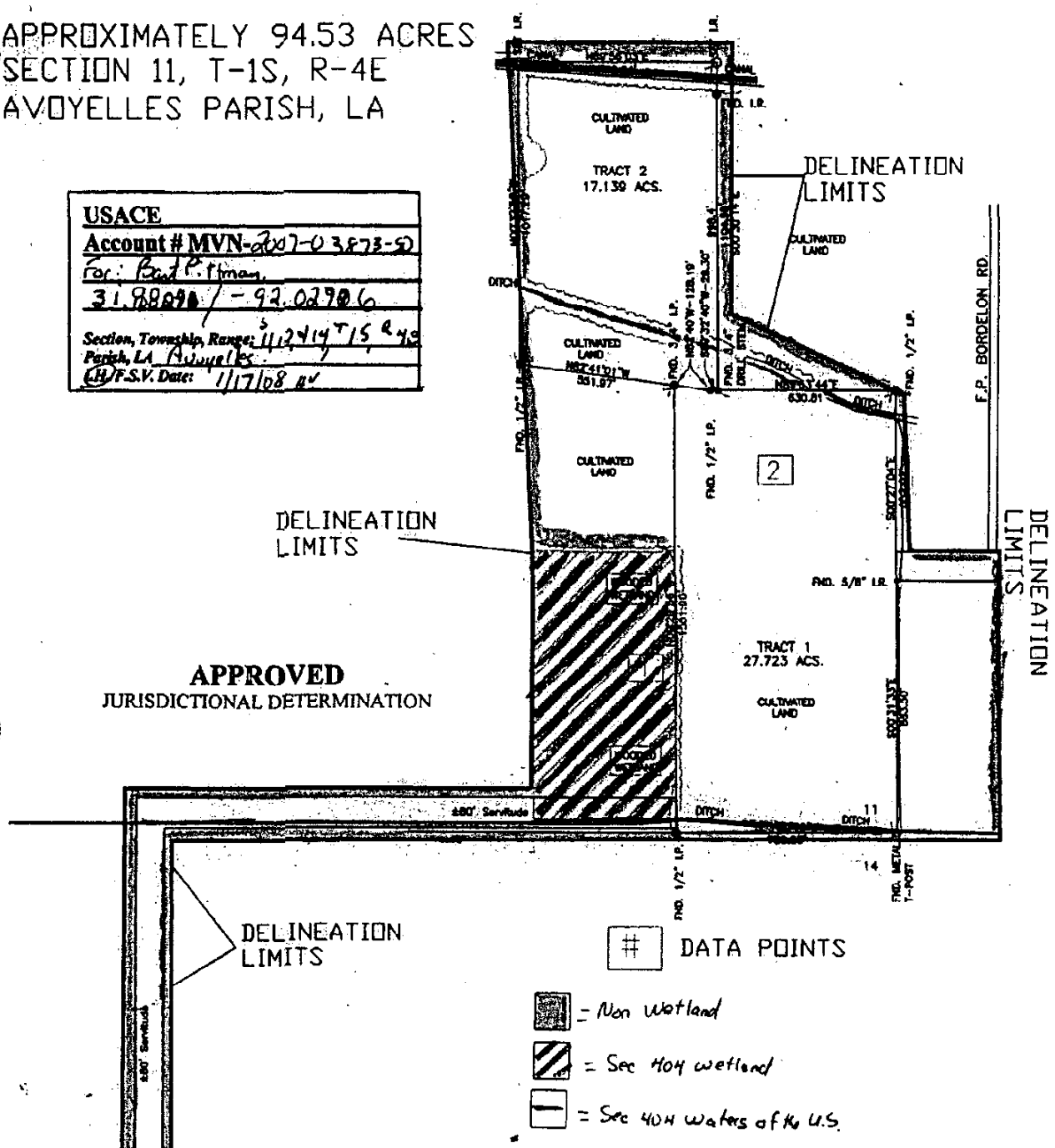
Karen L. Oberlies

Karen L. Oberlies
Solicitation of Views Manager

PRELIMINARY WETLAND DELINEATION

APPROXIMATELY 94.53 ACRES
SECTION 11, T-1S, R-4E
AVOYELLES PARISH, LA

USACE
Account # MVN-2007-03873-SD
For: Brad Pittman
31.88098 / -92.02906
Section, Township, Range: 5 11,24,14 T 1S R 4E
Parish, LA Avoyelles
(H)/F.S.V. Date: 1/17/08 AV



PRISON ROAD

PITTMAN ENVIRONMENTAL SERVICES, LLC
P.O. BOX 16296
HATTIESBURG, MS 39404
(601) 297-2487
Project: Cottonport Monofill
Date: 5-18-07

TETRA TECH

Date: 7-27-07
No known archaeological sites or historic properties will be affected by this undertaking. This effect determination could change should new information come to our attention.
Pam Breaux: Pam Breaux
State Historic Preservation Officer

June 28, 2007

Louisiana Department of Culture, Recreation, and Tourism
Office of Cultural Development
Ms. Pamela Breaux, Assistant Secretary
Section 106 Review
1051 North 3rd Street
Baton Rouge, Louisiana 70802

RE: Louisiana GreenTech, LLC
Waste Tire Pyrolysis Facility
960 FP Bordelon Road
Cottonport, Avoyelles Parish, Louisiana
Louisiana Department of Environmental Quality Permit Application

Dear Ms. Breaux:

Tetra Tech EM Inc. (Tetra Tech), on behalf of Louisiana GreenTech, LLC (GreenTech), is preparing a permit application for submission to the Louisiana Department of Environmental Quality (LDEQ) to construct and operate a Waste Tire Pyrolysis Facility located adjacent to the Cottonport Monofill Facility as indicated on the attached map. The Louisiana Legislature finds that removal of waste tires from the solid waste stream going into landfills currently being utilized for the disposal of solid waste in Louisiana is necessary to protect our environment; prevent nuisances; protect the public health, safety, and welfare; extend the usable life of the facilities; aid in the conservation and recovery of valuable resources; and to conserve energy by efficient reuse of these products, thereby benefiting all citizens of Louisiana.

Tetra Tech is preparing a permit application on behalf of GreenTech for submission to the LDEQ. In order to fulfill the necessary requirements of the permit application, GreenTech is required to solicit your agency's comments regarding potential impacts the facility may have on archeological sites and historical properties. Tetra Tech has attached a Proposed Site Location Map indicating the proposed site location to assist with your review.

GreenTech intends to heat waste tires in an inert atmosphere (pyrolysis), which recycles tires into high value oil, gas, carbon, steel and energy. The process will be conducted in a closed system in which waste tires are thermally decomposed in a nitrogen atmosphere. Steel remaining in the retort will be clean and ready for reuse. Carbon remaining in the retort will be harvested, milled, pelletized, and ready for reuse. Oil will be condensed out

JUL 2 2007

TetraTech EM Inc.
6110 Bluebonnet Boulevard, Suite B, Baton Rouge, LA 70809
Main 225.769.9400 Fax 225.766.8855 www.tetratech.com

P4228

Louisiana GREENTECH

Po Box 1126
Cottonport, La. 71327

Date: 11-14-07
No known archaeological sites or historic properties will be affected by this undertaking. This effect determination could change should new information come to our attention.
Pam Breaux: Pam Breaux
State Historic Preservation Officer

October 18, 2007

Ms. Pam Breaux
State Historic Preservation
Department of Culture, Recreation, and Tourism
PO Box 44247
Baton Rouge, LA. 70804

Re: Cultural Sites or Yet To Be Discovered Sites

Dear Ms. Breaux,

It is the intention of Louisiana GreenTech (LGT) to construct a thermochemical processing plant in the area of Cottonport, Louisiana. The proposed land for this Plant is currently being used as farm land. The plant will be located on Hwy 29 N adjacent to the Cottonport Monofill. Cottonport Monofill is the largest recycler of passenger and off road vehicle tires in the state of Louisiana.

The purpose of the thermochemical processing plant will be to recycle waste tires to recover useful products of gas, oil, steel, and carbon black. The plant site will use approximately 8 acres of land which includes a manufacturing building, a process building and storage area for the waste tires.

Enclosed for your review is an aerial photo with the location of the plant site and storage facility as well as a surveyor's map with site coordinates.

After our investigation, it is our opinion that no know cultural sites, or yet to be discovered sites, will be affected by our construction activities. We respectfully request that your office comment on our determination that no further cultural resource investigations are needed. Your prompt reply would be very much appreciated and we eagerly await your findings so that we may proceed as soon as possible.

For any further questions regarding this information, please contact me at 318-876-3327 or 318-305-7527.

Sincerely,

Rubert Ward
President
Louisiana GreenTech
Po Box 1126
Cottonport, LA. 71327
Ph# 318-876-3327

OCT 29 2007

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
3727 Government Street
Suite 116
Alexandria, La 71302
Phone: (318) 473-7681
Fax: (318) 473-7846

September 10, 2007

Mr. Robert L. Harris, PG, CHMM
Tetra Tech EM Inc.
6110 Bluebonnet Boulevard
Suite B
Baton Rouge, La. 70809

Subject: La. Green Tech, LLC Waste Tire Pyrolysis Facility Prime Farmland Assessment.

Dear Mr. Harris:

Per our phone conversation I offer the following comments. In examining your project proposal, I found that it will have a negligible effect on total farmland in Avoyelles Parish. In my previous letter I had documented that the entire site is located on Prime Farmland soils which will be converted to a commercial use. NRCS has no program that will be impacted by this project and has no objection to the proposed project. We would ask that appropriate measures be taken during the construction process to protect the soil resource from erosion and sedimentation in the nearby stream.

If I can assist you further with this evaluation, please let me know.

Michael Cooley
Resource Conservationist
Alexandria Area Office

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
3727 Government Street
Suite 116
Alexandria, La 71302

September 10, 2007

Mr. Robert L. Harris, PG, CHMM
Tetra Tech EM Inc.
6110 Bluebonnet Boulevard
Suite B
Baton Rouge, La. 70809

Subject: La. Green Tech, LLC Waste Tire Pyrolysis Facility Prime Farmland Assessment.

Dear Mr. Harris:

Please find attached a completed AD-1006, Farmland Conversion Impact Rating form, for the La. Green Tech Facility near Cottonport in Avoyelles Parish. I made an attempt to calculate the acreage of the site delineated on the map you provided. My calculations came to approximately 33.6 acres. Therefore, the attached evaluation is based on this acreage figure. The entire site is considered to be Prime Farmland. This site has a relative Farm land value of 91. None of the soils on the site are classified as Hydric soils.

If I can assist you further with this evaluation, please let me know.

Michael Cooley
Resource Conservationist
Alexandria Area Office

Cc: Jerry Daigle, State Soil Scientist, Alexandria SO, Alexandria, La.
Kirk Garber, District Conservationist, Marksville Field Office, Marksville, La.

Avoyelles Parish POLICE JURY

312 N. Main Street • Courthouse Building
Marksville, Louisiana 71351
(318) 253-9208 or 964-2142
Fax: (318) 253-4614 or 964-2885
Email: avppalle@hotmail.com

April 19, 2007

State of Louisiana
Department of Economic Development
Post Office Box 94185
Baton Rouge, Louisiana 70804-9185

Attn: Marylyn P. Friedkin
Enterprise Zone Program

Dear Ms. Friedkin:

Enclosed herewith please find a certified copy of a resolution that has been adopted by the Avoyelles Parish Police Jury in regular session on Tuesday, April 19, 2007.

This resolution endorses the Louisiana Greentech, LLC Project # 062485-0.

If you have any questions, please feel free to contact me.

Sincerely,

Allison B. Laborde

Allison B. Laborde
Secretary-Treasurer

Enclosure

Cc: Louisiana Greentech, LLC

On motion by **Kirby Roy**, seconded by **McKinley Keller**:

RESOLUTION STATING THE AVOYELLES PARISH POLICE JURY ENDORSEMENT OF LOUISIANA GREENTECH, LLC TO PARTICIPATE IN THE BENEFITS OF THE LOUISIANA QUALITY JOBS AND/OR ENTERPRISE ZONE PROGRAM

WHEREAS, the Louisiana Enterprise Zone Act of 1981, Act 901, was enacted by the 1981 Louisiana State Legislature, Act 337 was enacted by the 1982 Legislature, Act 433 was enacted by the 1987 Legislature, Act 1024 was enacted by the 1992 Legislature, Act 581 was enacted by the 1995, and Act 624 and Act 647 were enacted by the 1997 Legislature, and Act 977 was enacted by the 1999 Legislature; and

WHEREAS, the Louisiana Enterprise Zone Program and the Louisiana Quality Jobs Program offer significant incentives for economic development in the State; and

WHEREAS, the business is located within eligible areas for participating; and

WHEREAS the Avoyelles Parish Police Jury states this endorsement is in agreement with the Comprehensive Economic Development Strategy for the area;

NOW, THEREFORE, BE IT RESOLVED by the Avoyelles Parish Police Jury in regular and legal session convened this 10th day of April, 2007 that, in accordance with the Louisiana Enterprise Zone Program and the Louisiana Quality Jobs Program requirements, the Avoyelles Parish Police Jury agrees to:

1. Participate in the Enterprise Zone Program and/or the Quality Jobs Program; and
2. Assist the Louisiana Department of Economic Development in evaluating progress made in any Enterprise Zone within its jurisdiction; and
3. Rebate all local sales/use taxes on the purchase of eligible construction materials, machinery, and equipment purchased for this project and used by the business permanently on that site except those sales/use taxes that are dedicated to repayment of a Bond issue or dedicated to any public school.

BE IT FURTHER RESOLVED that the Avoyelles Parish Police Jury endorses Louisiana Greentech, LLC to participate in the Louisiana Enterprise Zone Program.

BE IT FURTHER RESOLVED that all resolutions or parts thereof in conflict herewith are hereby repealed.

Motion Carried

I hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at the regular meeting of the Police Jury of the Parish of Avoyelles, La., on April 10 2007.
Given under my hand and seal of office this 12th day of April, 2007.

Allison P. Fallo Jr.
Secretary-Treasurer

TOWN OF COTTONPORT

(Home of the Christmas Festival on Bayou Rouge)

931 Bryan Street / P.O. Box 118 / Cottonport, Louisiana 71327-0115

MAYOR: Paul A. Gauthier
TOWN CLERK: Theresa Jenkins-Williams
CHIEF OF POLICE: Charles L. Jenkins

Telephone (318) 876-3485
FAX (318) 876-3356

March 6, 2007

Honorable McKinley "Pop" Keller
Avoyelles Parish Police Jury – District 6
312 N. Main Street – Courthouse Building
Marksville, La. 71351

RE: IMPROVEMENTS TO F.P. BORDELON ROAD

Honorable McKinley,

We would like to take this opportunity to express our full support for any improvements to the F.P. Bordelon Road leading to the Cottonport Monofil (Waste Tire Processing Plant). It is our interest to work closely with Mr. Rupert Ward continuously for any future improvements that the Town of Cottonport may provide.

Your assistance on the above project will be an asset to the community, as well as the Parish of Avoyelles.

Please feel free to call on us anytime.

Sincerely yours,

Paul A. Gauthier
Mayor

Curtis Francisco
Mayor Pro-Tem

Margaret Jenkins
Council Member-1

Kenneth Friels
Council Member-2

Louie Laborde
Council Member-3

Out of Town
Lonis Laurent
Council Member-4

TOWN OF COTTONPORT

(Home of the Christmas Festival on Bayou Rouge)

931 Bryan Street / P.O. Box 118 / Cottonport, Louisiana 71327-0118

MAYOR: Paul A. Gauthier
TOWN CLERK: Theresa J. Anderson
CHIEF OF POLICE: Charles L. Jenkins

Telephone (318) 876-3485
FAX (318) 876-3356

April 17, 2007

Mr. Rubert Ward, President
Louisiana Green Tech
960 F. P. Bordelon Road
P.O. Box 1127
Cottonport, La. 71327

RE: IMPROVEMENT TO OUR ECONOMIC DEVELOPMENT

Dear Mr. Ward:

We would like to take this opportunity to express our full support for economic development in the Town of Cottonport, Louisiana. We ***"welcome"*** the industries and jobs that we so richly need in this area. It is our interest to work closely with you and your staff continuously for future endeavors.

The project will be an asset to the community as well as the Avoyelles Parish.

Please feel free to call on us anytime.

Sincerely yours,

Paul A. Gauthier
Mayor

Curtis Francisco
Mayor Pro-Tem

Margaret Jenkins
Council Member-1

Kenneth Friels
Council Member-2

Louie Laborde
Council Member-3

Lonis Laurent
Council Member-4

Mayor Pro-Tem
Curtis J. Francisco

District 1
Council Member
Margaret Prater-Jenkins

District 2
Council Member
Kenneth Friels

District 3
Council Member
Louie Laborde

District 4
Council Member
Lonis J. Laurent

Louisiana Department of Environmental Quality
Standard Waste Tire Permit Application

LAC 33:VII.10525

§10525. Standards and Responsibilities of Waste Tire Processors

A. Receipt of Tires

1. Upon receiving a shipment containing waste tires, the processor shall be responsible for verifying the number of waste tires in the shipment by actually counting each waste tire. The processor shall sign each waste tire manifest upon receiving waste tires. Processors can be reimbursed from the Waste Tire Management Fund for only those eligible tires accepted from authorized Louisiana transporters or from generators as specified in LAC 33:VII.10519.K.

2. Each processor shall accept no more than five unmanifested tires per day per customer. The processor shall maintain a log for all unmanifested loads. The log shall include, at the minimum, the following:

a. the name and address of the customer;

b. the license plate number of the vehicle delivering the tires;

c. the phone number of the customer;

d. the number of tires received;

e. the date;

f. the time; and

g. the signature of the customer delivering the tires.

B. On a form obtained from the Office of Management and Finance, Financial Services Division, all processors shall submit to the Office of Management and Finance, Financial Services Division, a monthly report which shall include a certified record of pounds of tires processed during the month, along with all completed manifests for the month and the log recording all unmanifested waste tires deposited at the facility. The monthly report shall also include a certified record of the pounds of waste tire material that have been marketed and delivered as a product or raw material

for beneficial reuse. An alternative method of reporting sale of waste tire material shall be developed and approved for each processor that uses a process other than shredding. The alternative method shall be approved by the administrative authority.

C. Waste tire facility operators shall provide completed copies of waste tire manifests to the appropriate waste tire generator within 30 days of the origination date of the manifest.

Waste tires will be received and counted by the Cottonport Monofill (CPM) in accordance with their waste tire permit. Waste tires transferred from the CPM facility to the Louisiana GreenTech, LLC (LGT) facility will be counted as they are bailed and placed in the waste tire racks for processing in the pyrolysis units or for storage. The LGT facility is a beneficial end user of the waste tires. Copies of manifest from the CPM will be maintained on file for 3 years. The facility's recording and reporting procedures are included in the Operational Plan provided in Appendix A.

D. All waste tire facilities must meet the following standards.

1. All processors shall control ingress and egress to the site through a means approved by the administrative authority, with at least one entrance gate being a minimum of 20 feet wide.

The LGT facility is accessible from Louisiana Highway 29 by F.P. Bordelon Road. F.P. Bordelon Road provides access to the LGT and the Cottonport Monofill facilities. A twenty-eight (28) feet long steel pipe gate located at the drainage crossing on F.P. Bordelon Road limits ingress/egress to the facility before/after normal operating hours. This pipe gate is located approximately 1,000 feet north of the LGT northern property line. A second gate utilized as an emergency exit is located along the southern property line adjacent to the Louisiana Correctional facility. This gate is locked at all times and will only be used in case of an emergency situation.

2. All facilities shall have a buffer zone of 100 feet. Waste tires and waste tire material shall not be placed in the buffer zone.

A 100 feet buffer zone will be maintained around the operation and storage areas of the facility, with the exception to the east. The owner of the Cottonport Monofill has provided a waiver allowing a reduced buffer zone to the east of the LGT facility. Waste tires and waste tire materials will not be stored in the buffer zone.

3. Fire Protection

a. There shall be no open burning.

b. The facility operator shall enter into a written agreement with the local fire department regarding fire protection at the facility.

c. The facility operator shall develop and implement a fire protection and safety plan for the facility to ensure personnel protection and minimize impact to the environment.

There will be no open burning at the LGT facility. LGT has contacted and made arrangements with the Cottonport Fire Department to respond to the facility in the event a fire occurs at the facility. Fire extinguishers will be located throughout the processing areas at the facility. A storm water retention pond is located in the southwest portion of the Cottonport Monofill facility and may be utilized as a source of firewater for the Cottonport Fire Department if needed. Additional fire hydrants will be strategically positioned in the waste tire storage area. The Fire Protection Plan, including a letter from the Cottonport Fire Department, is provided in Appendix C.

4. Suitable drainage structures or features shall be provided to prevent or control standing water in the waste tires, waste tire material, and associated storage areas.

Waste tire storage areas will be graded to facilitate stormwater drainage and prevent standing water within the waste tire storage piles. The waste tires will be stacked in piles situated on crushed rock or limestone in such a way as to prevent rainwater from entering the tires.

5. All water discharges, including stormwater runoff, from the site shall be in accordance with applicable state and federal rules and regulations.

There will be no process water discharges from the LGT facility operations. A Notice of Intent (NOI) for a multi-sector general stormwater permit will be prepared and submitted to the Louisiana Department of Environmental Quality. LGT will adhere to the stormwater permit discharge regulations upon commencement of operations at the facility.

6. All waste tire processors, collectors, and associated solid waste management units shall comply with LAC 33:VII.Subpart 1.

LAC 33:VII.Subpart 1 regulations are addressed elsewhere in this application.

7. Waste tires and waste tire material shall be treated according to an acceptable and effective disease vector control plan approved by the administrative authority.

A Disease Vector Control Plan is included as part of the Operational Plan provided in Appendix A.

8. Waste tires and waste tire material stored outside shall be maintained in piles, the dimensions of which shall not exceed 10 feet in height, 20 feet

in width, and 200 feet in length or in such dimensions as approved by the administrative authority.

Waste tire storage piles will not exceed 10 feet in height, 20 feet in width, and 200 feet in length.

9. Waste tire or waste tire material piles shall be separated by lanes with a minimum width of 50 feet to allow access by emergency vehicles and equipment.

Interior emergency vehicle lanes will be maintained free of obstructions with a minimum distance of 50 feet between waste tire storage piles in accordance with NFPA guidance and LDEQ regulations. This will allow emergency response vehicles to have unobstructed and quick access to waste tire storage piles for fire control purposes.

10. Access lanes to and within the facility shall be free of potholes and ruts and be designed to prevent erosion.

At a minimum, access lanes will be surfaced for all-weather access with crushed rock. Site roads are routinely graded and/or resurfaced as needed to maintain accessibility and to prevent growth of vegetation for fire protection purposes.

11. The storage limit for waste tires and waste tire material shall be no more than 60 times the daily permitted processing capacity of the processing facility.

The daily processing capacity of the LGT facility is 3,840 tires per day; therefore, the maximum storage limit for the facility will be 230,400 waste tires.

12. All waste tire facility operators shall maintain a site closure financial assurance fund in an amount based on the maximum number of pounds of waste tire material that will be stored at the processing facility site at any one time. This fund shall be in the form of a financial guarantee bond, performance bond, or an irrevocable letter of credit in the amount of $20 per ton of waste tire material on the site. A standby trust fund shall be maintained for the financial assurance mechanism that is chosen by the facility. The financial guarantee bond, performance bond, irrevocable letter of credit, or standby trust fund must use the exact language included in the documents in LAC 33:VII.11101.Appendix A. The financial assurance must be reviewed at least annually.

LGT will provide the LDEQ with an irrevocable letter of credit in the amount of $50,688 using the exact language provided in LAC 33:VII.1101. Appendix A. The amount of the letter of credit will be based on 2,534 tons of waste tire material on the site. The maximum number of tire stored on-site is 230,400 tires, at a weight of 22 pounds per tire equals 2,534 tons. 2,534 tons times $20 per ton equals $50,688.

13. An alternative method of determining the amount required for financial assurance shall be as follows:

a. the waste tire facility operator shall submit to the Office of Management and Finance, Financial Services Division, an estimate of the maximum total amount by weight of waste tire material that will be stored at the processing facility at any one time;

b. the waste tire facility operator shall also submit to the Office of Management and Finance, Financial Services Division, two independent, third-party estimates of the total cost of cleaning up and closing the facility,

including the cost of loading the waste tire material, transportation to a permitted disposal site, and the disposal cost; and

c. if the estimates provided are lower than the required $20 per ton of waste tire material, the administrative authority shall evaluate the estimates submitted and determine the amount of financial assurance that the processor is required to provide.

LGT will determine the amount of financial assurance utilizing 10525.12. Therefore, 10525.13.a – c. is not applicable.

14. Financial assurances for closure and post-closure activities must be in conformity with the standards contained in LAC 33:VII.727.A.2.i.

LGT will determine the amount of financial assurance utilizing 10525.12. Therefore, 10525.14 is not applicable.

Media Type (check one)
Hazardous Waste ☐ Air ☐
Solid Waste ☒ Water ☐
Radiation Licensing ☐

Agency Interest Number: _____
Is this a copy of a previously submitted form? Yes ☐ No ☒
If yes, indicate the original submittal date: _____
If yes, indicate the original permit number: _____

Department of Environmental Quality Permits Division P.O. Box 4313 Baton Rouge, LA 70821-4313 (225) 219-3181	**Addendum to Permit Applications per LAC 33:I.1701**	

Please Type Or Print	**Company Name** Louisiana GreenTech, LLC	☒ Owner ☒ Operator	**For Permits Division Use Only**
	Parent Company (if Company Name given above is a division)		
	Plant name (if any) **Louisiana GreenTech Waste Tire Processing Facility**		
	Nearest town **Cottonport**	**Parish where located** **Avoylles**	

1. Does the company or owner have federal or state environmental permits identical to, or of a similar nature to, the permit for which you are applying in other states? (This requirement applies to all individuals, partnerships, corporations, or other entities who own a controlling interest of 50% or more in your company, or who participate in the environmental management of the facility for an entity applying for the permit or an ownership interest in the permit.)

   ☒ Permits in Louisiana. List Permit Numbers: LPDES - LA0099449; Cottonpot Monofill, LLC - RP-0258R1

   ☐ Permits in other states (list states): _____

2. Do you owe any outstanding fees or final penalties to the Department? No☒ Yes☐
   If yes, please explain. _____

3. Is your company a corporation or limited liability company? No☐ Yes☒ If yes, attach a copy of your company's Certificate of Registration and/or Certificate of Good Standing from the Secretary of State.

Certification:

I certify, under provisions in Louisiana and United States law which provide criminal penalties for false statements, that based on information and belief formed after reasonable inquiry, the statements and information contained in this Addendum to the Permit Application, including all attachments thereto are true, accurate, and complete.

Responsible Official

Name Rubert Ward		
Title President		
Company Louisiana GreenTech, LLC		
Suite, mail drop, or division		
Street or P.O. Box 960 F.P Bordelon Road		

City Cottonport	State LA	Zip 71327
Business phone 318-876-3327		
Signature of responsible official(s)		
Date 3/5/2008		

Louisiana Secretary of State
COMMERCIAL DIVISION
Corporations Database

Louisiana Secretary of State
Detailed Record

Charter/Organization ID: 36469968Q

Name: LOUISIANA GREENTECH, LLC

Type Entity: Limited Liability Company (Non-Louisiana)

Status: Active

Annual Report Status: In Good Standing **Add Certificate of Good Standing to Shopping Cart**

Mailing Address: 1209 ORANGE ST., WILMINGTON, DE 19801-1120

Domicile Address: 1209 ORANGE ST., WILMINGTON, DE 19801-1120

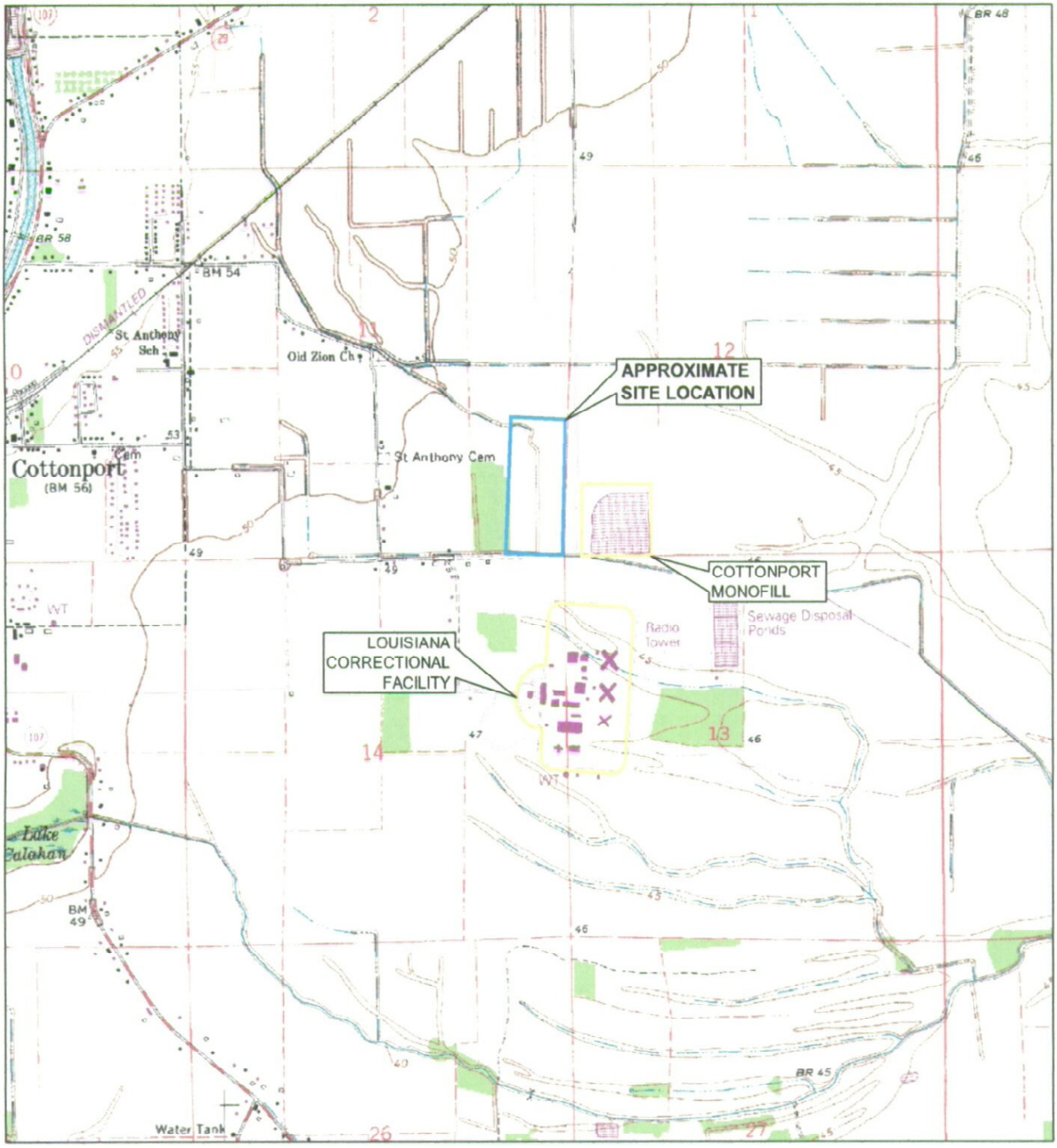
Principal Office: 1209 ORANGE ST., WILMINGTON, DE 19801-1120

Principal Bus. Est. in Louisiana: 960 F. P. BORDELON RD., COTTONPORT, LA 71327

Qualified: 06/08/2007

Registered Agent (Appointed 6/08/2007): C T CORPORATION SYSTEM, 8550 UNITED PLAZA BLVD., BATON ROUGE, LA 70809

New Search | View Cart



SOURCE: USGS TOPOGRAPHIC MAP OF COTTONPORT, LOUISIANA - 1998.

N

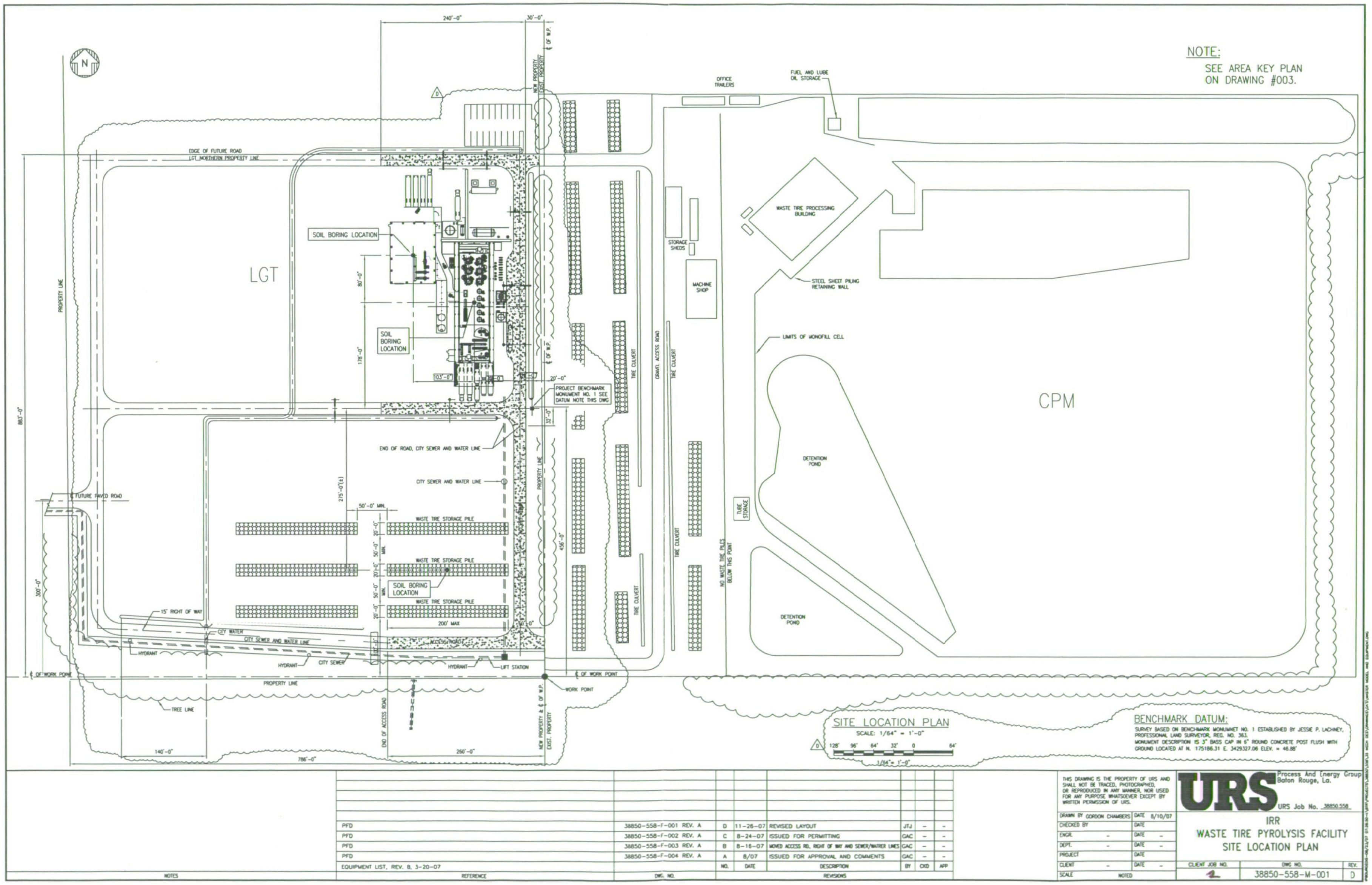
0 1000 2000

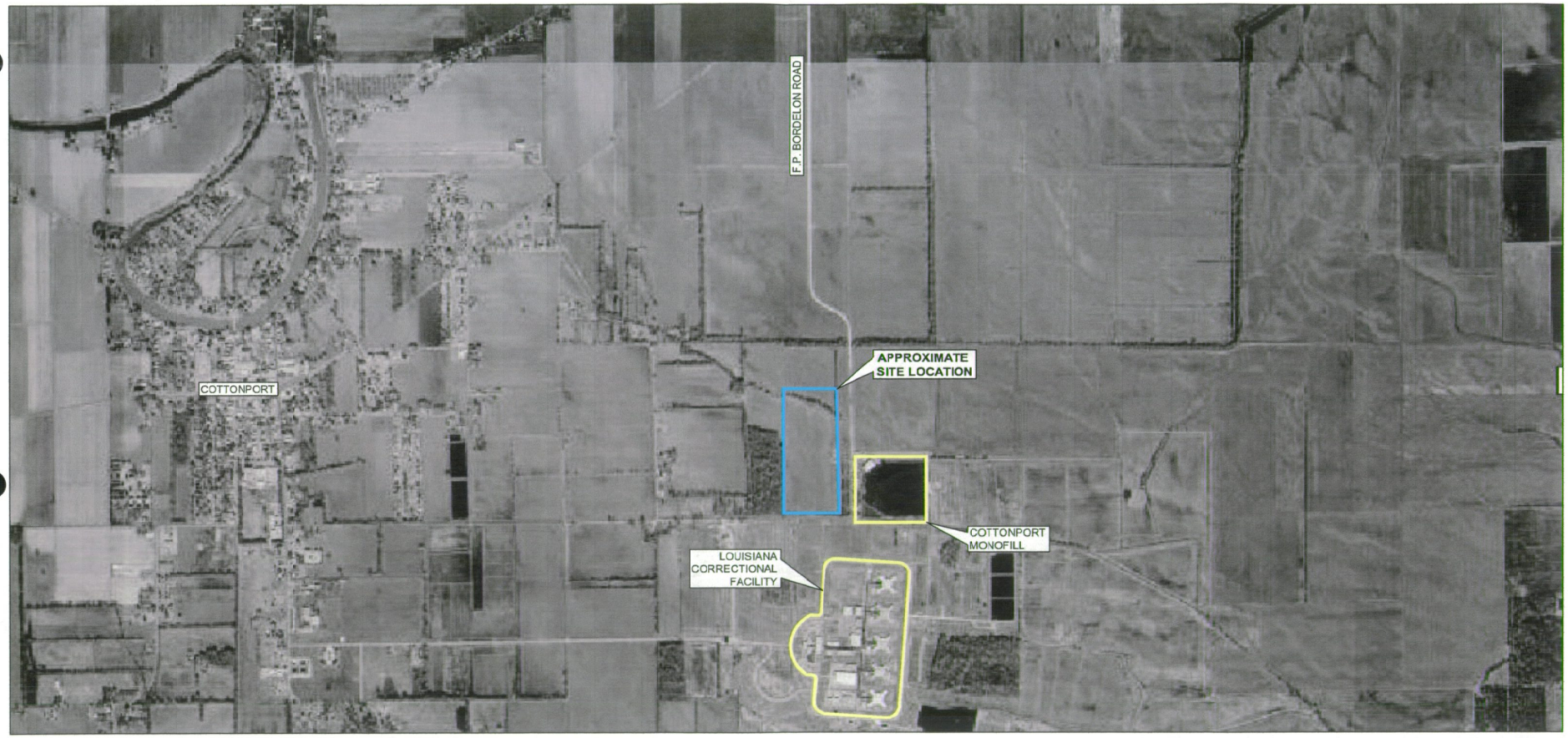
APPROXIMATE SCALE IN FEET

TETRA TECH

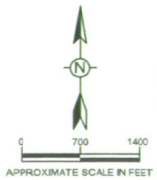
LOUISIANA GREENTECH, LLC
960 F.P. BORDELON ROAD
COTTONPORT, LOUISIANA

FIGURE 1
PROPOSED SITE LOCATION - TOPOGRAPHIC MAP


NOTE:
SEE AREA KEY PLAN ON DRAWING #003.
LGT
CPM
SOIL BORING LOCATION
WASTE TIRE STORAGE PILE
WASTE TIRE PROCESSING BUILDING
STEEL SHEET PILING RETAINING WALL
LIMITS OF MONOFILL CELL
DETENTION POND
MACHINE SHOP
STORAGE SHEDS
OFFICE TRAILERS
FUEL AND LUBE OIL STORAGE
TUBE STORAGE
GRAVEL ACCESS ROAD
TIRE CULVERT
NO WASTE TIRE PILES BELOW THIS POINT
PROJECT BENCHMARK MONUMENT NO. 1 SEE DATUM NOTE THIS DWG
END OF ROAD, CITY SEWER AND WATER LINE
CITY SEWER AND WATER LINE
END OF ACCESS ROAD
LIFT STATION
HYDRANT
CITY SEWER
CITY WATER
15' RIGHT OF WAY
FUTURE PAVED ROAD
EDGE OF FUTURE ROAD
LGT NORTHERN PROPERTY LINE
PROPERTY LINE
NEW PROPERTY
EXIST. PROPERTY
WORK POINT
TREE LINE
SITE LOCATION PLAN
SCALE: 1/64" = 1'-0"
BENCHMARK DATUM:
SURVEY BASED ON BENCHMARK MONUMENT NO. 1 ESTABLISHED BY JESSIE P. LACHNEY, PROFESSIONAL LAND SURVEYOR, REG. NO. 363. MONUMENT DESCRIPTION IS 3" BASS CAP IN 6" ROUND CONCRETE POST FLUSH WITH GROUND LOCATED AT N. 175188.31 E. 3429327.06 ELEV. = 46.88'
PFD 38850-558-F-001 REV. A
PFD 38850-558-F-002 REV. A
PFD 38850-558-F-003 REV. A
PFD 38850-558-F-004 REV. A
EQUIPMENT LIST, REV. B, 3-20-07
D 11-26-07 REVISED LAYOUT JTJ
C 8-24-07 ISSUED FOR PERMITTING GAC
B 8-16-07 MOVED ACCESS RD, RIGHT OF WAY AND SEWER/WATER LINES GAC
A 8/07 ISSUED FOR APPROVAL AND COMMENTS GAC
THIS DRAWING IS THE PROPERTY OF URS AND SHALL NOT BE TRACED, PHOTOGRAPHED, OR REPRODUCED IN ANY MANNER, NOR USED FOR ANY PURPOSE WHATSOEVER EXCEPT BY WRITTEN PERMISSION OF URS.
DRAWN BY GORDON CHAMBERS DATE 8/10/07
URS
Process And Energy Group Baton Rouge, La.
URS Job No. 38850.558
IRR
WASTE TIRE PYROLYSIS FACILITY
SITE LOCATION PLAN
38850-558-M-001
D



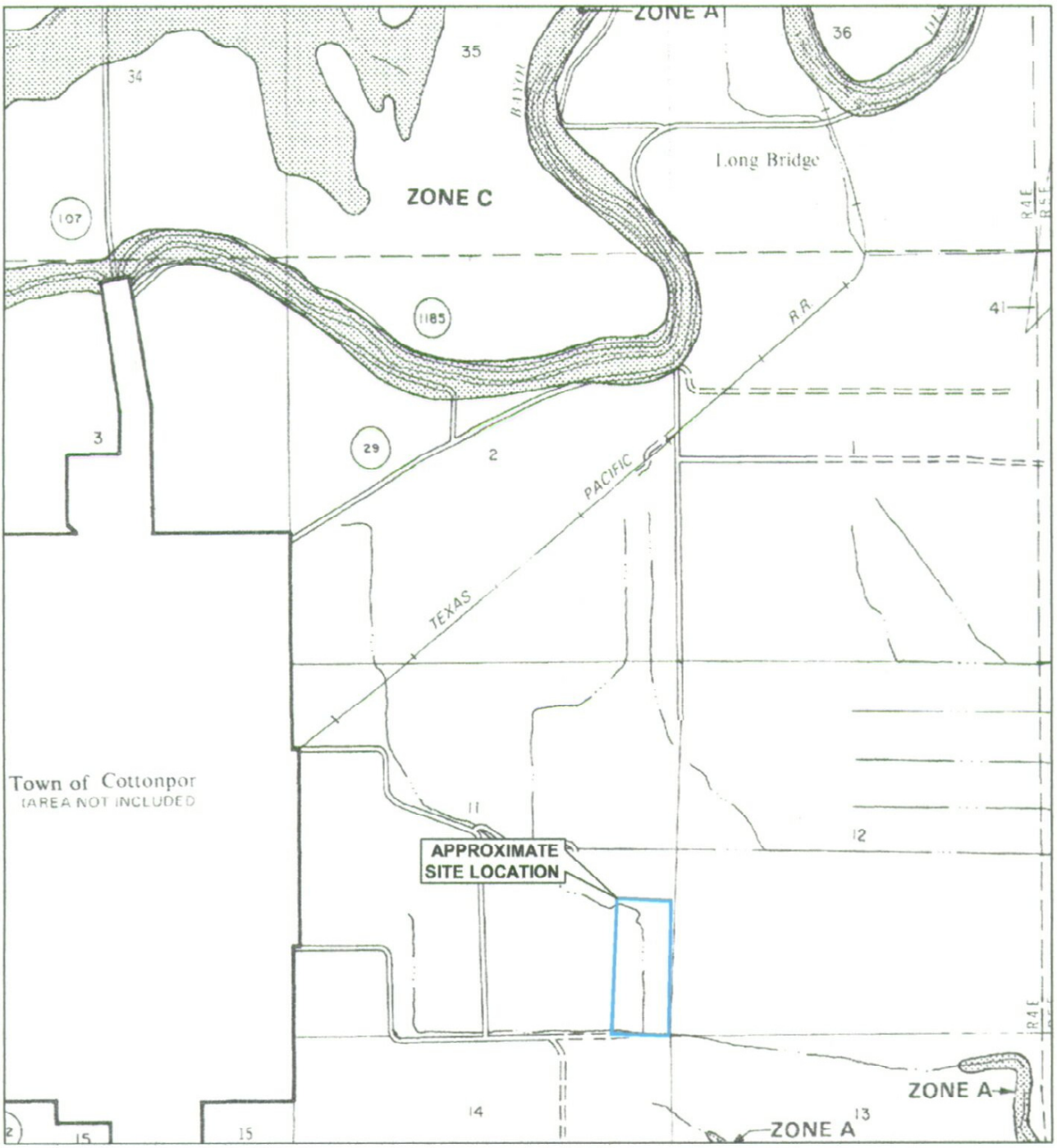
SOURCE: TERRASERVER - 1998.



TETRA TECH

LOUISIANA GREENTECH, LLC
960 F.P. BORDELON ROAD
COTTONPORT, LOUISIANA

FIGURE 3
PROPOSED SITE LOCATION - AERIAL VIEW



SOURCE: U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT FEDERAL INSURANCE ADMINISTRATION, FLOOD INSURANCE RATE MAP FOR AVOYELLES PARISH, LOUISIANA UNICORPORATED AREA; PANEL 175 OF 275 - FEBRUARY 26, 1980.

ZONES:

A AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED

C AREAS OF MINIMAL FLOODING

N

0 1000 2000

APPROXIMATE SCALE IN FEET

TETRA TECH

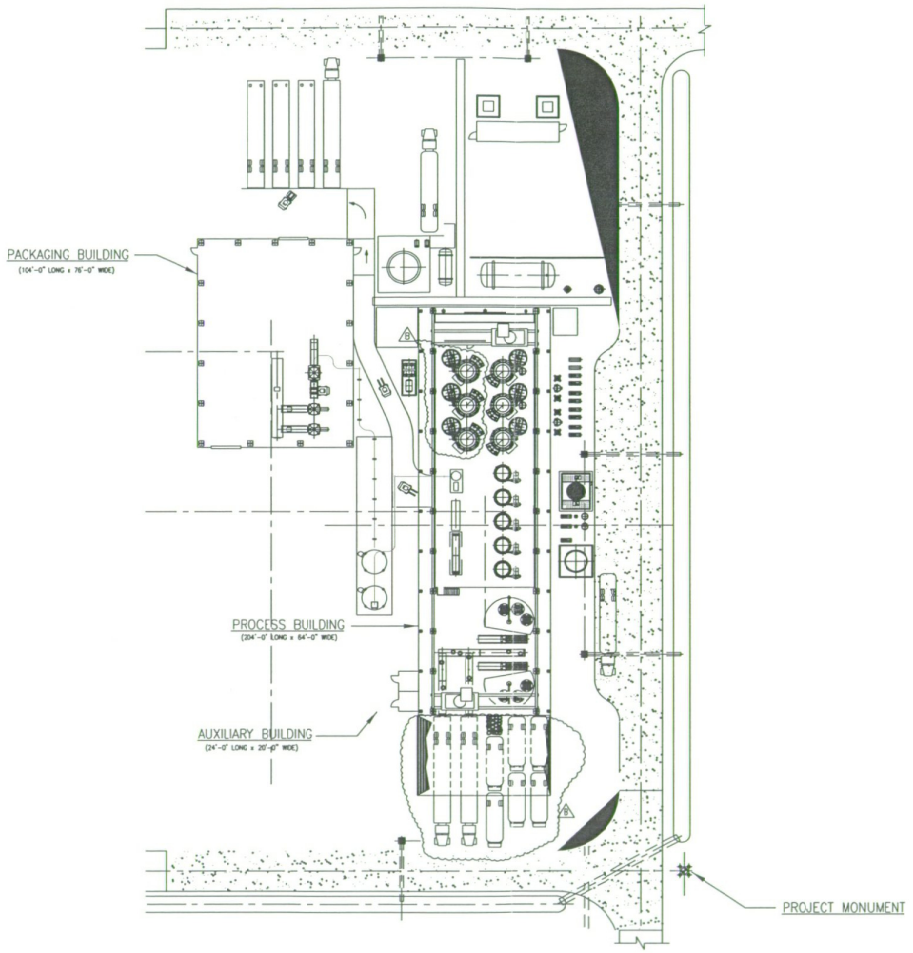
LOUISIANA GREENTECH, LLC

960 F.P. BORDELON ROAD

COTTONPORT, LOUISIANA

FIGURE 4

FLOOD INSURANCE RATE MAP



EQUIPMENT ARRANGEMENT
N.T.S.

NOTE:
SEE AREA KEY PLAN
ON DRAWING #003.

PROCESS BUILDING ON HOLD
PENDING CRANE SELECTION

REFERENCE	DWG NO.
PFD	38850-558-F-001 REV. A
PFD	38850-558-F-002 REV. A
PFD	38850-558-F-003 REV. A
PFD	38850-558-F-004 REV. A
EQUIPMENT LIST, REV. B, 3-20-07	

NO.	DATE	DESCRIPTION	BY	CKD	APP
B	11-27-07	REVISED LAYOUT	JTJ	–	–
A	8/07	ISSUED FOR APPROVAL AND COMMENTS	GC	–	–

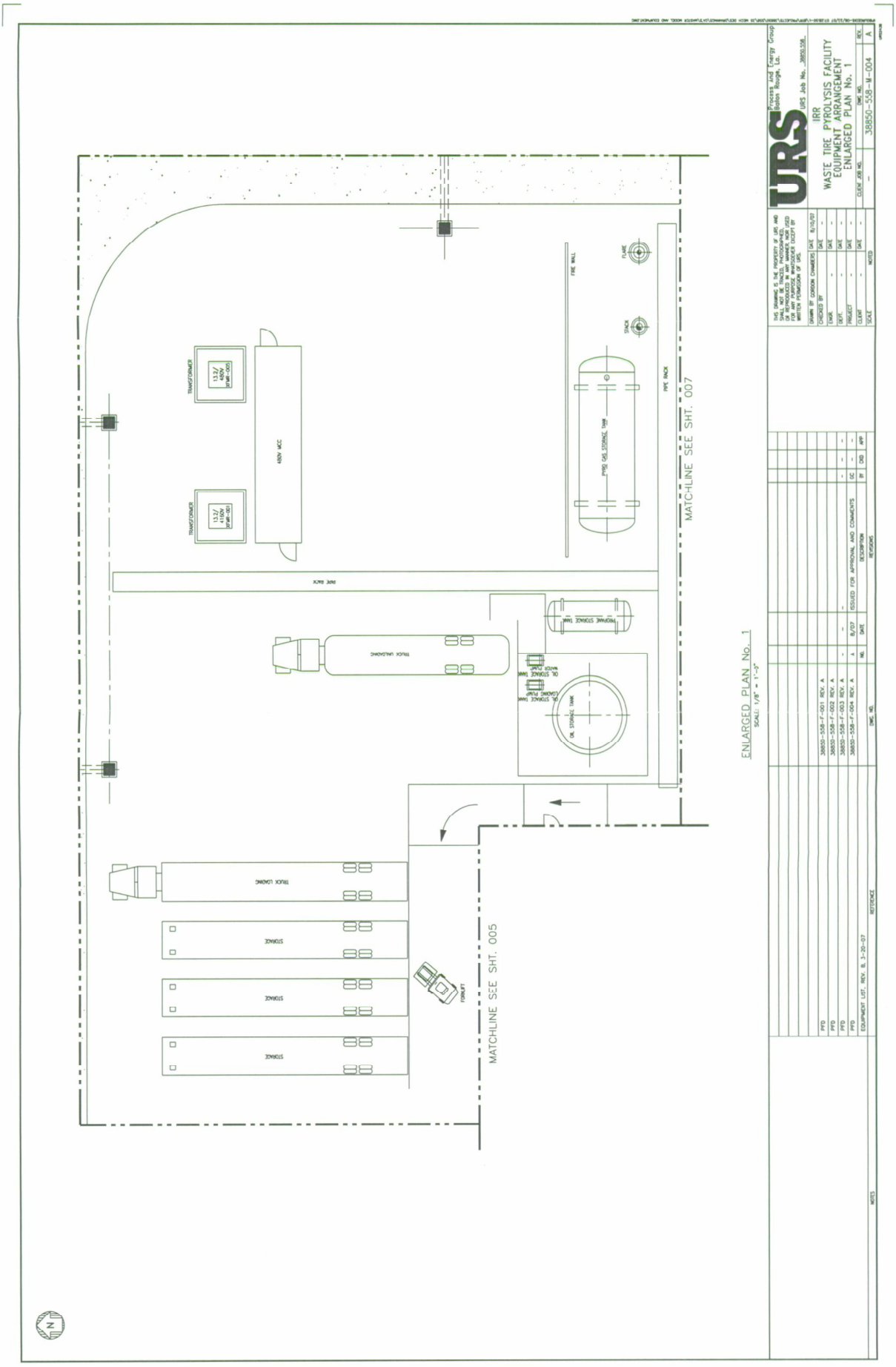
NOTES

DRAWN BY GORDON CHAMBERS	DATE	8/10/07
CHECKED BY	DATE	
ENGR. –	DATE	–
DEPT. –	DATE	–
PROJECT	DATE	
CLIENT –	DATE	–
SCALE	NOTED	

URS Process and Energy Group
Baton Rouge, La.
URS Job No. 38850.558

IRR
WASTE TIRE PYROLYSIS FACILITY
OVERALL EQUIPMENT ARRANGEMENT
PLAN VIEW

CLIENT JOB NO.	DWG NO.	REV.
–	38850-558-M-002	3



ENLARGED PLAN No. 1
SCALE: 1/8" = 1'-0"

URS Process and Energy Group
Baton Rouge, La.
URS Job No. 38850.558

IRR
WASTE TIRE PYROLYSIS FACILITY
EQUIPMENT ARRANGEMENT
ENLARGED PLAN No. 1

CLIENT JOB NO. —
DWG NO. 38850-558-M-004
REV. A

DRAWN BY GORDON CHAMBERS DATE 8/10/07
CHECKED BY DATE -
DWR. - DATE -
DEPT. - DATE -
PROJECT - DATE -
CLIENT - DATE -
SCALE NOTED

PFD	38850-558-F-001 REV. A							
PFD	38850-558-F-002 REV. A							
PFD	38850-558-F-003 REV. A	-	--	-	-	-	-	
PFD	38850-558-F-004 REV. A	1	8/07	ISSUED FOR APPROVAL AND COMMENTS	GC	-	-	
		NO.	DATE	DESCRIPTION	BY	CHD	APP	
				REVISIONS				

EQUIPMENT LIST, REV. 8, 3-20-07

REFERENCE

NOTES

APPENDICES

APPENDIX A

LOUISIANA GREENTECH, LLC
OPERATIONAL PLAN

Louisiana GreenTech, LLC
Operational Plan

Louisiana GreenTech, LLC (LGT) plans to build a waste tire pyrolysis facility adjacent to the Cottonport Monofill (CPM) site near Cottonport, Louisiana. The process will convert waste tires into sellable products: Carbosite™ (various grades of finely ground char), oil, pyrolysis gas, and scrap steel. Waste tires will be processed using a batch heating process where the tires are heated and decomposed in an oxygen deficient environment in a retort vessel. The process is referred to as pyrolysis.

The LGT site is owned by Mr. Rubert Ward of the CPM and is leased to LGT. The site consists of approximately 16 acres of a 27 acres site. The active portion of the site is 786 feet East to West and 883 feet South to North (south section). A small berm separates the two parts of the property.

The facility will be operated by LGT and will include equipment for the following processes: tire feed systems, oil and pyrolysis gas recovery and storage systems, char recovery and packaging systems, buildings, and utilities. The fine milling (grinding) system will be provided by others. Carbosite™, oil, and scrap steel are to be sold. Pyrolysis gas recovered from the process will be recycled and used as a fuel source for process heating. Excess pyrolysis gas will be flared.

LAC 33:VII.10517.A.14.a

Facility access and security: The LGT facility will be accessible from LA Highway 29 by F.P. Bordelon Road. The 28 foot-wide steel pole gate located at the drainage crossing on Bordelon Road approximately 1,500 feet north of the property line is to be locked by the last employee leaving the facility. The gate is positioned to restrict unauthorized vehicular access around it. A sign will be posted at LA Highway 29 to identify the LGT facility, the hours of operation, and emergency contact information.

LAC 33:VII.10517.A.14.b

Waste tire acceptance plan, to count, record, and monitor incoming quantities of waste tires: LGT will receive waste tires from the CPM Monday through Friday, from 7:00 AM to 5:00 PM. LGT is a beneficial end user of waste tires and is not eligible for reimbursement from the LDEQ. Loaded vans may be transferred after 5:00 PM by LGT staff. The LGT tire baling unit operates two shifts per day, seven days per week. Open top vans are expected to contain

approximately 750 automobile and light truck tires. LGT will sign waste tire manifest upon receipt of waste tires from the CPM indicating that LGT is the end user of the waste tires. Copies of waste tire manifests will be filed and maintained for three years.

Normal requirements are slightly less than 4,000 tires per day or approximately six to seven van loads per day five days per week. Several additional van loads will be received to cover the weekend requirements; these tires will either be unloaded to a pad or left in vans and unloaded as required.

LAC 33:VII.10517.A.14.c

Method to control water run-on/off: The LGT waste tire operation and storage areas will be elevated by the addition of fill material. Imported soil will be brought in and compacted as required to meet construction design criteria. The increase in surface elevation will direct run-on and run-off away from these areas of the site and towards the drainage ditch system. The drainage ditch system extends to the southern portion of the property and flows eastward off-site. A storm water pollution prevention plan has been developed for the facility, which will provide methods of monitoring storm water at the site. A Notice of Intent (NOI) was submitted to the LDEQ Water Permits Division to providing compliance with a multi-sector general storm water permit.

LAC 33:VII.10517.A.14.d

Days and hours of operation: The LGT facility will be sized to process 1,009,000 tires per year in normal operation. The LGT facility is expected to be on-line 284 days per year. The pyrolysis train will operate 24 hours a day, 7 days a week. The tire handling area will be in operation 2 shifts per day, 7 days a week. The packaging area will be in operation 1 shift 5 days a week. The design basis for the plant is to process 1,400,000 tires per year with the plant operating 365 days per year.

LAC 33:VII.10517.A.14.e

Waste tire storage methods: Waste tire storage piles will be located at the southeast corner of the LGT facility.

i. dimensions of waste tire piles

The waste tire piles will not exceed 200 feet long by 20 feet wide by 10 feet high.

ii. maximum number of waste tires and volume of waste tire material to be stored at any one time. The total amount of waste tires and volume of waste tire material shall not exceed 60 times the daily capacity of the processing unit

A minimum of approximately 38,000 tires will be stored at the LGT facility at any one time. The maximum number of waste tires and volume of waste tire material to be stored at any one time will not exceed 230,400 tires, which is 60 times the capacity of the processing unit rate of 3,840 tires per day.

iii. width of fire lanes

The width of the fire lanes between the waste tire stockpiles will be a minimum of 50 feet, with a setback of 100 feet from property lines.

iv. method of storage to exclude standing water, including inside storage

The waste tire stockpiles will be situated on a base of rock or crushed concrete, and will be laced to help keep rainwater from entering the tires. Waste tires will be bailed and placed inside the process building. Water will be removed from the waste tires as best as possible prior to processing.

v. type of access roads and buffer zones

A 24-foot wide site access road (F.P. Bordelon Road) will be maintained from LA Highway 29 to the LGT facility. The road is surfaced for all-weather access with a limestone aggregate and reclaimed asphalt composite material. Perimeter emergency vehicle access lanes around the waste tire stockpiles will be surfaced with composite material to maintain all-weather accessibility. Site roads will be graded and resurfaced as needed to maintain accessibility.

Property and waste tire stockpile buffer zones will be kept free of debris and vegetation for fire protection purposes. The width of the fire lanes between the waste tire stockpiles will be a minimum of 50 feet, with a setback of 100 feet from property lines. Waste tire stockpiles will be located in those areas depicted on the approved site master plan unless a permit modification is granted from the LDEQ.

vi. emergency control plans in case of fire or accident, etc.

An emergency control plan has been prepared for the LGT facility. The emergency control plan includes emergency response phone numbers, fire suppression equipment locations, etc. The plan will be updated on a periodic

basis as needed. Copies of the emergency control plan are located throughout the facility. A copy of the emergency control plan is provided in Appendix C.

LAC 33:VII.10517.A.14.f

A detailed description of the waste tire processing method to be used, including daily capacity: The design basis for operation of the LGT facility is to process 3,840 tires per day. This is based on normal operations of 12 retorts per day, 16 bales per retort and twenty 22 lb tires per bale. It is anticipated that each retort will accept 16 bales per load for a load weight of 7,040 lbs. per retort. Operations will be proven at this rate.

The future maximum potential load is expected to be no more than 16 whole bales and 4 half bales of 20 tires per whole bale with a tire weight of 22 lbs resulting in a maximum load of 9,000 pounds. Operations will be modified when necessary to meet this rate.

The baling process will be operated two, 8 hour shifts a day, 7 days a week. Capacity of the system is based on normal tire flow to the retorts. The baling rate is expected to be 8 bales per hour per baler, two balers will be provided.

1. Tire Handling Tires will be received from CPM and unloaded onto the process building floor or directly into racks for placement in a retort. The receiving area will also allow baled tire receipts storage for up to two days feedstock (about 400 bales).

A bridge crane is provided to move the loaded racks from the staging area into an available retort, to return empty racks to the staging area and to move retorts between the fired heater and cooling chamber. The crane will be provided with a scale. As each lift of the loading rack is made into the retort, the rack and tire weight will be recorded by operator notation. The rack number will have a corresponding tare weight. The net weight of tires will be available for manual entry into the Surface Combustion controls should this value be required.

2. Retort Operations The retort is the removable chamber which is moved to a fired heater (furnace) and to a cooling station. Retort operation will be 3 shifts per day, 7 days a week. Six fired heaters will be provided. Two cycles per day per furnace is the design basis. Removable retorts will be transferred to a cooling station for approximately four hours for final cooling. Five cooling stations will

be provided. One of the cooling stations will always be empty to accept a loaded retort.

The basic process consists of an initial nitrogen purge to provide an oxygen deficient atmosphere for processing, a short term firing of the burners during which oil and gas vapors begin exiting the retort, a soak process in which the volatiles continue to evolve, a final purge step and finally, replacement of the retort lid with a temporary lid and movement of the retort to the cooling station. The char and steel will be removed from the retort after cooling the contents from approximately 500°F to less than 140°F as required by OSHA for safe handling by personnel.

3. Recovery of Oil and Gas Each set of three retorts will be provided with an oil/gas recovery system. This will consist of two spray towers circulating cooled oil. Oil condensed in the scrubbers will be removed to a storage tank by level control on the scrubber basin. On the recommendation of the environmental consultant, the tank volume is not to exceed 19,800 gallons and the oil temperature is not to exceed 175°F. Normal operating temperature of the oil from the 1st stage condenser is anticipated to range between 140°F to 165°F.

The 1st stage scrubber is designed to handle 95% of the cooling/condensing load with the 2nd stage condenser to handle the remaining 5% load. Each condenser will have vapor entry just above the collection basin and a spray ring or rings in the upper portions of the condenser. Oil will be circulated from the basin, through a cooling water exchanger, back to the top of the condenser. Condensed oil will be removed from the system by level control in the basin.

The 2nd stage condenser will provide final condensation and cooling and will have sufficient capacity to handle excursions in the 1st stage scrubber.

Safeguards in system include online spare pumps for both condensers and temperature monitoring. Exchangers for both condensers are of equivalent size as an additional safeguard.

Each oil/gas recovery system supports three retorts, and the startup cycle for the retorts determines the combined vapor rate. The design basis states that no two retorts within the same recovery system are to be started up (fired) within a 4 hour period.

4. Char Handling The char (at 39% of load) and steel (at 13% of load) remain in the retort. The steel will be removed by a magnet connected to the bridge crane and removed to a vibrating conveyor. Char will fall through the conveyor into a collection hopper and the steel will be conveyed to a scrap metal compactor. The compacted material is to be sold. It is expected that manual de-charring (manual percussion) will be used to free remaining char from the steel while in the retort, that 3% of the char will be removed with the metal and that two thirds of that material will be recovered from the vibrating conveyor. The char vacuum system will be used during this process to provide suction to the conveyor vent hood.

Once the steel has been removed, the vent hood will be shut down and the vacuum hoses will be used to recover char from the conveyor collection bin and to vacuum out the retort. HEPA filters will be utilized on the blower and dust collection from the filters will be per Special Products procedures.

5. Grinding and Milling Char from the char vacuum system is expected to be 10-20 pcf. Rotary valves will be used to feed char through a grate magnet and then through a coarse grinder to delump the char. Char from this system is expected to be 8 mesh. Metal will be manually collected from the grate magnet which is expected to handle steel fines only and will be placed in the scrap metal compactor.

The coarse grinder will be operated intermittently 24 hours a day. Product will be conveyed to one of the two PV silos. PV is a term material which has been size reduced to minus 8 mesh but not been milled or ground or segregated by size.

6. Storage and Packaging Materials will be packaged in 25 lb and 50 lb sacks and in 700 pound poly bags. Feed material will be packaged as loose powder. Each packaging system will have a feed hopper.

A formal Process Description for the LGT Waste Tire Pyrolysis Project is provided as Appendix D.

LAC 33:VII.10517.A.14.g
Site grounds maintenance and disease vector control to minimize vector-breeding areas and animal attraction:

i. controlling fly, mosquito, and other insect emergence and entrance
ii. controlling rodent burrowing for food and harborage

iii. controlling bird and animal attraction

Waste tire stockpiles will be maintained in accordance with regulations as previously stated in the Operational Plan. Fire lanes and access roads will be maintained free of obstructions including any and all debris and vegetation. All roads will be maintained with a dozer and grader. Trash on the facility grounds and roads will be policed regularly. Trash receptacles will be emptied on a regular basis. Maintenance of the landscaping and grass mowing will be conducted on a routine basis to minimize vector breeding in high weeds. Ditches and areas that cannot be mowed will be treated by spraying to control weed growth.

The LGT facility will maintain waste tire stockpiles to minimize water accumulating in tire wells. Pyrethroids will be used in a fog machine to control adult populations of insects in work areas. Pyrethroid is a common chemical that kills insects. Pyrethroids are chemically degraded upon application in one to two days, and do not significantly impact groundwater. LGT will acquire "Private Applicator" cards from the Louisiana Department of Agriculture and Forestry on an annual basis as required by law to allow the application of restricted pesticides at the facility. The cards will be used to purchase restricted chemicals to treat work areas and waste tire stockpiles. The chemicals will be applied in accordance with State, Local, and manufacturer's regulations and guidance.

LAC 33:VII.10517.A.14.h

Buffer zones: Buffer zones are provided for the facility's property boundaries. Regulations restrict operations within 100 feet of property boundaries for waste tire processors. 100-foot buffers will be in place at the LGT facility to the south, west, and north; however, the buffer zone adjacent to the east property boundary adjoining CPM will be a reduced zone of 60 feet. Reduced buffer zone widths are allowed by the LDEQ, but require notarized affidavits from adjoining property owners that accept the reduced width. The LGT facility is a joint venture between Integrated Resources Recovery, Inc. and CPM, and will be located on property owned by Mr. Rubert Ward, Owner and President of the CPM. CPM granted LGT a waiver to allow operations within 100 feet of the LGT eastern property boundary.

LAC 33:VII.10517.A.14.i

Method to store waste tire material in detail: Waste tire storage piles will be located at the southeast corner of the LGT facility. The waste tire piles will not exceed 200 feet long by 20 feet wide by 10 feet high. A minimum of

approximately 38,000 tires will be stored at the LGT facility at any one time. The maximum number of waste tires and volume of waste tire material to be stored at any one time will not exceed 230,400 tires, which is 60 times the capacity of the processing unit rate of 3,840 tires per day. The width of the fire lanes between the waste tire stockpiles will be a minimum of 50 feet, with a setback of 100 feet from property lines. The waste tire stockpiles will be situated on a base of rock or crushed concrete and will be laced to help keep rainwater from entering the tires.

The design basis for operation of the LGT facility is to process 3,840 tires per day. This is based on normal operations of 12 retorts per day, 16 bales per retort and twenty 22 lb tires per bale. It is anticipated that each retort will accept 16 bales per load for a load weight of 7,040 lbs. per retort. Operations will be proven at this rate. The future maximum potential load is expected to be no more than 16 whole bales and 4 half bales of 20 tires per whole bale with a tire weight of 25 lbs resulting in a maximum load of 9,000 pounds. Operations will be modified when necessary to meet this rate.

The baling process will be performed during two, eight hour shifts a day, seven days a week. Capacity of the system is based on normal tire flow to the retorts. The baling rate is expected to be 8 bales per hour per baler. Two balers will be used during this process.

Tires will be received from CPM and unloaded onto the process building floor or directly into racks for placement in a retort. The receiving area will also allow baled tire receipts storage for up to two days feedstock (about 400 bales).

LAC 33:VII.10517.A.14.j

End market of the waste tire material: End markets of processed waste tire materials currently include tire derived fuel (oil), Carbosite™, pyro gas which will be recycled in the pyrolysis process, and scrap steel. Carbosite™ is used for several applications including:

- various rubber formulations
- extending, improving, and lowering raw material costs of neoprene, polyacrylate, EPDM, SBR, NBR, urethane, and butyl rubber
- color concentrates for thermoplastic and thermosetting resins
- improved electrical conductivity and lower oil absorption in polypropylene olefins

- pollutant removal applications (like activated carbon)
- a carrier for distillation of aliphatic and aromatic hydrocarbons, and
- a supplemental fuel source for industrial power cogeneration.

The scrap metal will be shipped off site to be recycled. End markets are generally dependent on the type and quality of the processed waste tire material. Copies of correspondence received from end market buyers of the processed waste tire materials are provided as an Attachment.

LAC 33:VII.10517.A.14.k

Method to control and/or treat any process water: A one cell cooling tower will be provided for the facility. Tower evaporation and drift are expected to be 8% to 9% of flow. Normal blow down will be 1 - 2 gallons per minute with up to 4 gpm to be expected depending on water purity. The design basis for the cooling tower blow down waste stream is 4 gpm. This would generate 5,760 gallons per day. A 12,000 gallon tank will be provided for wastewater storage. The wastewater will be transported offsite for disposal.

ATTACHMENTS

Western Resource Management
65835 Waldron Trail
Bend Oregon 97701
541-382-7701 Voice Mail
541-318-9072 FAX
bpetrich@empnet.com
saspetrich@empnet.com

11/13/07

Robert -

Here is the Hydro Tek Purchase Order for Carbosorb™ HP 403. We have not delivered this material as yet.

Regards

Bill

NOV-13-2007 07:53 AM P.02

07/17/2005 12:52 7084798544 HYDROTEK ENV PAGE 01

HYDRO-TEK, INC.
FILTRATION · DISTILLATION
8504 W. 192ND STREET
~~19325 Schoolhouse Road~~
Mokena, Illinois 60448-8708
(708) 479-0001 Fax: (708) 479-8544

Purchase Order

№ 5502

Date July 17, 2007

To I.R.R. Inc. ATTN W. PETRICH
1650 BOREL PLACE
SAN MATEO, CA 94402

Ship to SAME

Date Required	Customer Order No.	Terms	Requisition No./For
HOLD FOR DELIVERY	71907	NET UPON RECEIPT	

How Ship		Routing	F.O.B. Point
☐ Rail ☑ Truck	☐ Air ☐ Parcel Post	WILL ADVISE	S/P

	Quantity Ordered	Quantity Received	Please Supply Items Listed Below — Description	Unit Price	Total	
1	500#		CARBOSITE DISTILLATION CARRIER	51¢#	#255	00
2			#403			
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

PLEASE SEND COPIES OF YOUR INVOICE WITH ORIGINAL BILL OF LADING

Authorized Signature D. T. Clifford

Special Instructions:
AS NOTED: "PLEASE HOLD FOR DELIVERY"

Cooper Standard

Aug 2, 2005

To whom it may concern,

Cooper Standard Automotive has evaluated recovered carbon black from the thermal pyrolysis process. We find that it produces suitable rubber compound properties and rubber product properties in certain of our rubber products. Specifically it seems most appropriate as a replacement for N990 carbon black in certain rubber hose compounds and vibration control product compounds. While in some applications it is somewhat more reinforcing than N990 it is still less reinforcing than the N700 series carbon blacks.

Depending upon its relative cost, this recovered carbon black could be used in many, but not all of our applications that currently use N990. However since we could not use it across the board the cost benefit would need to be large enough to justify some capital equipment expense of handling two separate bulk materials in place of the current one, N990. In certain vibration control compounds it is not suitable because the dynamic/static stiffness ratio is higher with the recovered material and out of our customer's tolerance. Another concern is the lot to lot variation we would encounter long term; this would be quantified during evaluation trials at our facilities.

While Cooper Standard Automotive is unable to formally declare an intent to purchase at this time, we do feel the recovered carbon black is a viable product with a specific market in our industry. Raw material costs are increasing and new raw materials that offer significant cost savings; while still meeting customer requirements, are of great interest to our industry.

Sincerely

Cc(u:sce/worddoc/pyrolyzed black.doc)
J. Vance

Stephen Ehinger

Director- Material Development

NVH Control Systems
Cooper Standard Automotive
207 S West St
Auburn, IN 46706

EcoSolv
P.O. Box 2358 Tualatin, OR 97062-2358
Ph: (503) 925-9703 Fax: (503) 925-9704
Toll Free: 800-657-4047
Chem Clear

Mr. Ralph Osterling
Chairman, CEO
Integrated Resource Recovery Inc.
1650 Borel Place, #204
San Mateo California 94402

May 31, 2007

RE: Louisiana GreenTech, LLC

Dear Mr. Doran,

Please accept this letter as our commitment to proceed in discussions with you regarding the development of the Eco-Park to be located in Cottonport Louisiana.

The concept of recycling materials at a "sustainable industrial park"is most appealing to us and the goals established by our "vision statement".

EcoSolv is pledged to manufacture and distribute chemistries based upon recovered materials from agricultural offal. Our formulations, which include "No-Odor" dried adhesive remover, "Low-Odor" general purpose cleaner are based on "natural" chemicals produced through growth of crops and recovered for secondary use by a unique process.

EcoSolv also provides cleaners for pipe-lines, equipment, dried adhesive and coated metal as well as natural products designed to absorb and remove leaded paint.

We have an extensive distribution system that has been organized to deliver our products to market from Alaska down the Pacific Northwest and on into California. Placement of one of our blending, mixing and packaging stations at your facility will enhance and improve our distribution of the EcoMer line of products as well.

EcoMer are dry blended engineered extenders for use with thermoplastic and thermosetting resins. Our recent entry into the carbon-black and glycerol areas will augment our manufacturing capability and extend the line of EcoSolv products.
We will need approximately one acre of property with both inside and outside storage.

Please provide a date when it might be convenient to move this arrangement to the next level.

Sincerely,

Wes McMullen
President, Chief Operating Officer

Integrated Resource Recovery, Inc.
1650 Borel Place, Suite 204
San Mateo, CA 94402

Tel: (650) 573-8735 Fax: (650) 345-7890 e-mail: ralph@ralphosterling.com

THE CARBOSITE™ SERIES, NARRATIVE:

Carbosite™ 100 Series was specifically blended to assist those formulating chemists making "masterbatch" rubber recipes. The 100 series will extend, improve and lower your raw material cost of standard SBR, NBR, Neoprene™, Polyacrylate, EPDM, Urethane and Butyl rubber. Available in standard and fine-grind, *meta* sizes. Carbosite™ has been used to extend and augment N-series blacks with improved reinforcement.

Carbosite™ 200 Series was specifically blended to assist those formulating chemists involved with producing "COLOR CONCENTRATE" for the broad variety of both thermoplastic and thermosetting resins. Of special importance is the "enhanced" Carbosite ™ 203 recipe, used in polypropylene olefin, modified for improved electrical conductivity and lower oil absorption. We can formulate a color concentrate for PVC, Polystyrene and reclaimed blends of thermoplastics.

Carbosite™ 300 Series was specifically blended to conform to customer specifications for "activated carbon" used in special pollutant removal applications.
There are a great variety of commercially available activated carbons, and the reason for this diversity is the fact that each application requires an activated carbon with somewhat different properties. The most important characteristics include:

- **Specific surface area**
- **Pore volume**
- **Pore-size distribution**
- **Particle size**

Carbosite™ 400 Series represents "engineered products" designed to fit specifically, the recipes of our clients. Carbosite™ materials are unique in that they have been blended after extensive testing and discussion. Examples include our Carbosite™ 403 blend designed as a "carrier" for distillation of aliphatic and aromatic hydrocarbons. The presence of ten percent Carbosite™ 403 in each distillation batch insures a clear water-white solvent on recovery and provides for absorption of the resin, plasticizer and pigment/filler solids within the solvent waste.

Page 2. Carbosite™ Series Narrative

Louisiana GreenTech, LLC will also formulate a Carbosite™ blend for your specific purposes. We are also capable of producing pre-dispersions of Carbosite™ materials. Such dispersions can be in latex systems, such as polyvinyl acetate, styrene butadiene rubber latex, acrylic latex and others. Our sustainable industrial park located in Cottonport Louisiana is equipped to generate your product on site and augment your production by pre-preparation of your black ingredients. We invite you to visit our research and development facilities in Bend Oregon for a comprehensive and complete discussion of our products and technical abilities.

Feel free to call our Bend Research Headquarters at: 541-617-6061

APPENDIX B

LOUISIANA GREENTECH, LLC
SITE CLOSURE PLAN

SITE CLOSURE PLAN

For

LOUISIANA GREENTECH LLC
WASTE TIRE PYROLYSIS PLANT
960 F.P. BORDELON ROAD
COTTONPORT, LOUISIANA 71327
(318) 876-3327

Louisiana GREENTECH

Prepared By

TETRA TECH EM INC.
6110 BLUEBONNET BLVD, SUITE B
BATON ROUGE, LOUISIANA 70809
(225) 769-9400

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1. Closure Plan Purpose

Title 33, Part VII, Subpart 2, Section 10517, Number 16 states that a waste tire processing facility application must include a site closure plan. The closure plan must be submitted as a separate section with each application. The closure plan for all facilities must ensure clean closure of the site.

The Louisiana GreenTech LLC (LGT) facility will be storing and processing waste tires using a batch heating process where the tires are heated and decomposed in an oxygen deficient environment in a retort vessel. The process is referred to as pyrolysis. The intent of the processing facility is to recycle waste tires into commercial products, thereby reducing a significant waste stream for the State of Louisiana. The end products of this facility include Carbosite™ (various grades of finely ground char), oil, pyrolysis gas, and scrap steel. The closure plan is required in case of the unanticipated closing of the facility. If this should occur, all remaining waste tire material must be removed and processing equipment clean closed.

2. Closure Methods

The LGT facility will be operated until one of the following closure scenarios occurs:

a. renewal of the operating permit is denied by the LDEQ;

b. closure of the facility is mandated by a court of law; or,

c. financial benefits are no longer advantageous for the owner/operator.

The Louisiana Department of Environmental Quality will be notified in writing of the pending closure of the facility by the owner. The remaining waste tires stored on the LGT property will be relocated to the adjacent Cottonport Monofill for processing at that facility. Scrap metal stored in roll-off boxes will be sent to a recycling facility and funds obtained from the scrap metal will be further utilized for clean closure of the site. The packaged Carbosite™ and oil will be sold to contracted vendors. Nitrogen will be used to purge piping and associated equipment of pyrogas and oil. Pyrogas will be flared in accordance with the air permit.

Nitrogen and propane used in the process will be returned to the respective vendors. Process cooling water stored in the 12,000 gallon aboveground storage tank (AST) will be transported to an off-site permitted facility for appropriate disposal. Rainwater accumulated in the secondary containment of the storage tanks will also be transported to an offsite disposal facility. The pyrolysis plant equipment will be removed from service, and sold or scrapped at the discretion of the owner or financial institution holding title of the equipment.

3. Estimated Costs for Closure

The estimated cost of closure of the facility, based on the cost of hiring a third party to close the facility at the point in the facility's operating life when the extent and manner of its operation would make closure the most expensive is $60,350. However, financial assurance will be provided in the amount of $50,688. This amount is based on the requirements provided in LAC 33:VII. 10525.D.12. A proposal to transport and dispose cooling waste water and rainwater accumulated in the secondary containment areas is provided as an attachment to this closure plan. The cost to remove and dispose of the waste water is $7,350. A letter of intent from the Cottonport Monofil to transport and recycle any remaining waste tires at the LGT site is attached. The Cottonport Monofil cost to remove the tires is $5,000. LGT estimates that 2 operators will be required for 2 weeks to oversee removal of waste tires, removal of waste material, and complete closure of the facility. The personnel time to perform closure activities is based on the cost of 4 operators for 6 consecutive weeks (pending no delays in weather, etc.) at $50 per hour, which totals $48,000.

The estimated cost of closure will be reduced by funding received from the sale of Carbosite™, oil, scrap metal, and return of nitrogen and propane. The estimated funding received from sale and return of these items will be used to pay for the closure of the site.

4. Estimated Maximum Inventory

The maximum amount of whole waste tires that can be stored at the LGT site is 230,400 tires. The Cottonport Monofil has agreed to remove the waste tires remaining on the LGT site for a cost of $5,000. Scrap metal recovered from the waste tire process will be contained in scrap metal roll-off boxes provided by a scrap metal recycler. No more than five (5) full scrap metal roll-off boxes will be stored on-site pending transportation to the recycler. The remaining

waste tire material is considered a "finished product" and will be sold to the appropriate customers.

5. Schedule for Completing All Activities Necessary for Closure

The estimated time to close the facility is estimated at 6 weeks. This is sufficient time to remove the maximum number of tire to the Cottonport Monofil; remove waste water from the site; to purge producing piping of oil and pyrogas; have vendors remove all remaining product from the site; perform all required notifications; and to secure the site.

Removal of various equipment may occur at a later date. The equipment may be sold at auction by LGT or handled by the lien holder.

6. The Sequence of Final Closure as Applicable

Once the actions stated above in Sections 1-4 are completed, the facility may be returned to commerce for other purposes. No public notification will be required since there will not have been any waste materials disposed on the property.

COTTONPORT MONOFILL

P.O. Box 1127
960 F. P. BORDELON ROAD
COTTONPORT, LOUISIANA 71327
PHONE 318-876-3327
FAX 318-876-3277
www.cottonport-monofill.com

November 26, 2007

Mr. Ralph Osterling
CEO
Louisiana GreenTech, LLC
1650 Borel Place
Suite 204
San Mateo, CA. 94402

Re: Waste Tire Fee

Dear Mr. Osterling:

In the event of Louisiana GreenTech's (LGT) closure, the Cottonport Monofill (CPM) will charge LGT a sum of $5,000 (five thousand dollars) for transporting and disposing of all waste tires from LGT's processing and storage facility.

Regards,

Rubert Ward
President
Cottonport Monofill

Xc: Lloyd Ward II
Robert Harris

GATOR Environmental
P.O. Box 74885
Baton Rouge, LA 70874

GATOR ENVIRONMENTAL & RENTALS

CUSTOMER SERVICE IS OUR PRIORITY

February 1, 2008

Mr. Spencer Smith
Tetra Tech EMI
6110 Bluebonnet Blvd.
Suite B
Baton Rouge, La. 70809

Dear Spencer,

Per our discussion, I am pleased to provide you with a schedule of charges to treat and recycle waste water and provide vacuum truck services for the La. Green Tech project. Gator Environmental Services is a service company with extensive experience in helping companies manage their operating and compliance cost through the recycling and disposal of materials. Gator has developed extensive regulatory and treatment methodologies as well as an extensive service offering to our customers. The schedule of charges is as follows:

Vacuum Truck Services • 130 BBL and 70 BBL units available.	$75.00/hour
Waste Water and Oily Water Recycling • Sample and profile required prior to acceptance.	$00.50/gallon
Sludge Disposal • Sample and profile required prior to acceptance	$1.50/gallon

I estimate the cost to be $7350.00 for transportation and disposal of 12,000 gallons of water. Should there be sludges, the cost will increase accordingly.

This proposal is subject to Gator Environmental terms and conditions. Payment terms are net 30 days from date of invoice and interest will be charged at maximum allowed by law for unpaid balances over 30 days old. The above quote is exclusive of any applicable taxes. Fuel surcharges are charged at 18% on transportation.

Audits of Gator Environmental facilities by our customers and prospective customers are always welcome. We have taken comprehensive steps in the design and operations of these facilities to meet or exceed all applicable state and federal guidelines and regulations, and we are proud to offer these services to you.

I appreciate the opportunity to submit the above proposal to you and look forward to working with you in the future. We can schedule an audit at your convenience. If you have any questions or problems, please do not hesitate to contact me at (225) 303-6340.

Regards,

Greene Davis
Sales Representative

APPENDIX C

LOUISIANA GREENTECH, LLC
FIRE PROTECTION AND EMERGENCY CONTROL PLAN

FIRE PROTECTION
AND
EMERGENCY CONTROL PLAN

FOR

LOUISIANA GREENTECH, LLC
COTTONPORT, LOUISIANA

REVISED

December 18, 2007

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ATTACHMENTS

INITIAL EMERGENCY RESPONSE

ANY EMPLOYEE identifying a FIRE will IMMEDIATELY:

1. **Sound the fire alarm** located at the main process building.

2. **Call 911** from the office phone or any available phone

    A. When the operator answers, say:" I need the Cottonport Fire Department."

    B. When the fire department answers, say: "I have a fire at the Louisiana GreenTech waste tire recycling facility located at 960 F.P. Bordelon Road."

PERSONNEL ASSEMBLY AND EVACUATION

1. Employees will be alerted to a fire at the facility using the **FIRE SIREN SYSTEM.** This siren system is the only signal or alarm used at the facility and it is used for **FIRE ONLY. ALL EMPLOYEES** not engaged in fire control activities, have been instructed to retreat to the Cottonport Monofill office building as the primary point of assembly. The evacuation area designated on F.P. Bordelon Road will be used as the secondary point of assembly, if the Cottonport Monofill office building is determined to be unsafe. Evacuation instructions will be provided to employees when gathering at either assembly area.

2. **THE MAIN PROCESS BUILDING** has *(TBD)* exit doorways. Employees working in this building have been instructed to evacuate the building in the opposite direction of a fire.

ROLE OF ON-SITE PERSONNEL

1. The senior Louisiana GreenTech (LGT) Manager on duty at the time of a fire shall assume the role of "INCIDENT COORDINATOR" until the Fire Department "INCIDENT COMMANDER" arrives. Roles of on-site personnel needed to respond to a fire will be assigned by the INCIDENT COORDINATOR.

2. The INCIDENT COORDINATOR will be responsible for the following:

   A. Accounting for the safety of all employees.

   B. Immediately notifying the following agencies:

   - **Cottonport Fire Department**
     Ph. 318-240-5201 and/or 911
     Point of Contact: Robert White, Fire Chief
     307 Choupique Lane
     Cottonport, LA 71327

   - **Cottonport Police Department**
     Ph. 318-876-3488 or 318-876-3485
     Point of Contact: Charles Jenkins, Chief of Police
     931 Bryan Street
     Cottonport, LA 71327

   - **Avoyelles Parish Sheriff's Office**
     Ph. 318-253-4000 or 318-876-3330
     675 Government Street
     Marksville, LA 71351

   C. Notifying the General Manager

3. In the event of a major fire, explosion, and/or unauthorized discharge the General Manager will notify the following agencies and response contractors (as needed):

   - Avoyelles Hospital
     Ph. 318-253-8611
     4231 Highway 1192
     Marksville, LA 71351

   - Bunkie General Hospital
     Ph. 318-346-6681
     427 Evergreen Street
     Bunkie, LA 71322

- LDEQ Office of Environmental Compliance
  Emergency and Radiological Services Division, SPOC
  Ph. 225-219-3640

- National Response Center
  Ph. 1-800-424-8802
  www.nrc.uscg.mil/

4. One duty station will be established at the main entrance gate to direct the Fire Department to the Incident Coordinator or General Manager when they arrive.

5. The Incident Coordinator will coordinate the initial fire control efforts by employees in accordance with the following site procedures, which are discussed regularly during fire safety meetings.

   A. Fire extinguishers will be used to prevent a fire from spreading by applying them to the leading edge of the fire, then moving toward the source if possible. Fire extinguishers of the ABC type are located and marked throughout the operations area. CO2 extinguishers are located throughout the operations building as well.

   B. The Fire Department Incident Commander will be briefed immediately upon his arrival and assume command of the response to the fire.

6. The Incident Coordinator or General Manager will supervise the following activities during the initial 12 hour emergency response period:

   A. Serve as LGT's representative to interface with the Incident Commander and all other groups on behalf of LGT unless he otherwise delegates this authority.

   B. Support and assist the Cottonport Fire Department or any other fire department as needed during the 12 hour emergency time frame.

   C. Initiate actions (with agreement of the Incident Commander) to control transmission of the fire into the main production building or to other areas. Examples include:

      i. Cutting and retrieving rubber conveyor belts extending from the building to remove their fire transmission capability.

      ii. Using available heavy equipment to enhance separation between the fire and adjacent uninvolved flammable materials.

   D. Contact and engage a fire suppression contractor as directed by the Incident Commander to take over fire control activities within 12 hours if necessary.

E. Contact and engage an environmental services contractor for air/water monitoring and/or water runoff control as necessary.

F. Define, contract, and engage additional assistance such as supplies of limestone, clay, or soil required for fire control or runoff containment, as needed.

ROLE OF THE INCIDENT COMMANDER

THE FIRE DEPARTMENT INCIDENT COMMANDER WILL:

1. Assume command of all fire control activities upon his arrival with full cooperation of the LGT General Manager and all LGT employees.

2. Designate a command post location with the full cooperation of all LGT employees. If fire conditions permit, preferable locations include the Cottonport Fire Department's Mobile Command Center, the Cottonport Monofill main office area, or the truck parking lot.

RESPONSE DURING NON-OPERATION HOURS

SECURITY PERSONNEL ON DUTY WILL:

1. **Sound the fire alarm** located at the main process building.

2. **Call 911** from the office phone or any available phone

   A. When the operator answers, say, "**I need the Cottonport Fire Department**."

   B. When the fire department answers, say: **"I have a fire at the Louisiana GreenTech waste tire recycling facility located at 960 F.P. Bordelon Road."**

3. Notify LGT managers in the order of priority listed on the **EMERGENCY** CONTACTS list on Page 11 of this Plan.

FIRE PREVENTION MEASURES

1. Ten pound ABC fire extinguishers are located throughout the tire processing and storage areas. The fire extinguishers are inspected and maintained annually. They are also inspected monthly by in-house LGT personnel and serviced as necessary by an independent service company.

2. Five pound ABC fire extinguishers, which are inspected and maintained regularly, are installed on all loaders and forklifts.

3. **"No Smoking"** signs are posted prominently throughout the property to be visible from any LGT location.

4. Adequate lighting has been provided to enhance observation of trespassers by security personnel and produce safe working conditions for employees.

5. The site is manned by trained employees and/or security guards 24 hours per day.

6. Waste tire storage pile dimensions and separations meet or exceed applicable LDEQ regulations, including pathways at least 50 feet wide between piles, 100 feet buffers zones between property boundaries, and maximum height of 10 feet.

7. All brush and wild vegetation growth within the property are controlled to prevent fire spreading to adjacent areas and allow observation of trespassers.

8. All employees are periodically trained in fire prevention and fire fighting, including use of a fire extinguisher. The company maintains a file showing instructions as taken by employees.

9. LGT will request a courtesy visit/pre-fire plan meeting with representatives of the Cottonport Fire Department in 6 month intervals.

EMERGENCY CONTACTS

Primary Incident Coordinator: Rubert Ward

1st Alternate Emergency Contact: Kathlean Barr
2nd Alternate Emergency Contact: *To Be Determined*
3rd Alternate Emergency Contact: *To Be Determined*

Notify plant management below in order listed until appropriate levels of plant management are involved in the response activities

LIST OF PLANT MANAGEMENT CONTACTS

	Cell #	Phone #
President/General Manager **Rubert Ward**	318-305-7527	318-876-3933
Executive Assistant **Kathlean Barr**	318-359-3709	318-359-3709
Title ***To Be Determined***		
Title ***To Be Determined***		

Po Box 1126
Cottonport, Louisiana
71327

Emergency Contact Numbers of Medical, Police and Fire Department

Injuries

Acadian Ambulance: **911**

Dr. Newell Gauthier
Office: 318-876-3699
Res: 318-876-3766

Dr. Richard Ranheim
Office: 318-964-2701
Res: 318-964-2228

Hospitals

Avoyelles Hospital 318-253-8611
4231 Highway 1192
Marksville, La. 71351

Bunkie General Hospital 318-346-6681
427 Evergreen Street
Bunkie, La. 71332

Police Department

Cottonport Police (Office)	318-876-3485
	318-876-3488
Chief of Police:	Charles Jenkins
APSO Dispatch	318-253-4000
	318-876-3330

Fire Department

Bob White:	Dispatch Radio (Code: FD-1)	Home: 318-876-4245
Glen Normand:	Dispatch Radio (Code: FD-2)	Home: 318-876-2771

Emergency Contact Numbers of Personnel

Rubert Ward
President
Home: 318-876-3933
Office: 318-876-3327 Option. 2 Ext. 1
Mobile: 318-305-7527

Kathlean Barr
Executive Assistant
Home: 318-359-3709
Office: 318-876-3327 Option. 2 Ext. 2
Mobile: 318-359-3709

FIRE PREVENTION POLICIES

1. SOURCES OF IGNITION

A. SMOKING – Smoking is not permitted on LGT property except in specifically designated areas. Employees who violate this policy are subject to disciplinary measures, including termination. **"No Smoking"** signs are prominently displayed at the entrance and other locations throughout the facility.

B. USE OF WELDING AND CUTTING EQUIPMENT – Welding and cutting equipment are only utilized with the expressed consent of the General Manager or shift supervisor. The following fire control procedures are followed when such equipment is in operation:

i. All flammable materials must be removed from an area within 10 feet of such operations.

ii. A fire extinguisher and running water hose must be manned by a trained employee whose sole responsibility is fire watch during such operations.

2. STORAGE

A. TIRE STORAGE – All storage of tires and products must conform to LDEQ regulations governing such storage.

B. ACCESS – All weather roads will be installed around all storage piles. The roads must be accessible at all times and free of flammable materials and debris.

C. LIQUIDS STORAGE –

i. Diesel fuel – Diesel fuel required for equipment operation is stored only in a properly labeled, above ground storage tank. ,

ii. Unused oils – All unused oils and fluids are stored in properly marked metal containers within a designated storage area.

iii. Used oils – All used oils are stored in properly labeled 55 gallon metal drums. Storage of such materials is to be minimized by prompt, proper disposal of non-usable materials.

iv. Other combustible fluids – All other miscellaneous flammable materials are stored in properly labeled steel containers away from ignition sources.

3. EMPLOYEE TRAINING

LGT will provide training for all employees regarding:

A. Emergency response procedures to be followed in the event of a fire.

B. Proper use of all types of fire extinguishers present on site.

C. Simulated fire drills on a regular basis.

Records will be kept in each employee's personnel file regarding such training.

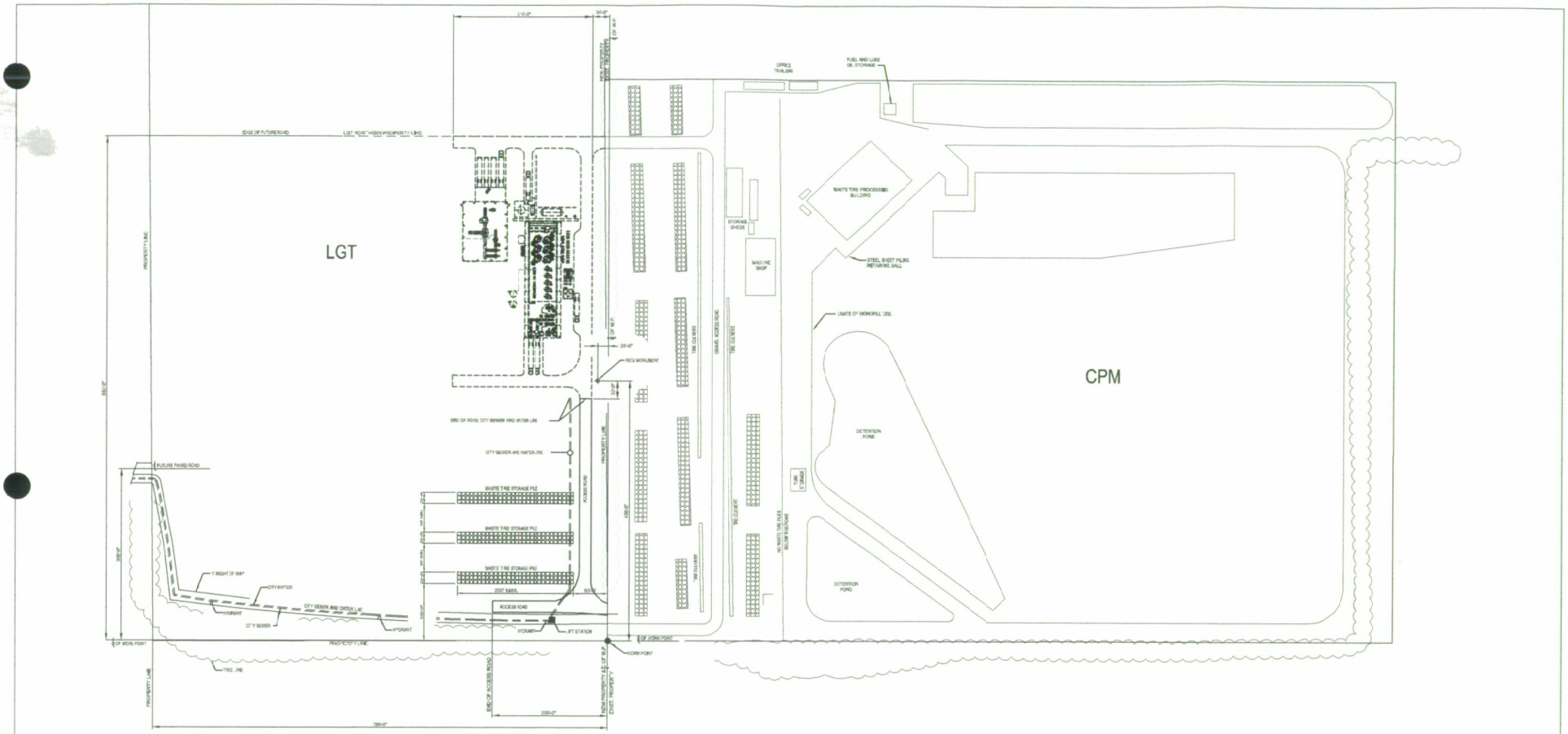
ADDITIONAL SITE INFORMATION

The Louisiana GreenTech (LGT) facility heats waste tires in an inert atmosphere (pyrolysis), which recycles tires into high value oil, gas, carbon, steel and energy. The process will be conducted in a closed system in which waste tires are thermally decomposed in a nitrogen atmosphere. Steel remaining in the retort will be clean and ready for reuse. Carbon remaining in the retort will be harvested, milled, pelletized, and ready for reuse. Oil will be condensed out of gas/oil vapor for sale as marine distillate. Gas will be scrubbed and approximately 60% will be used to fuel the process.

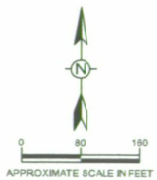
The waste tire pyrolysis is capable of recovering nearly 100% of the used tire resource and placing the recovered products into existing markets. The process conserves resources by displacing thousands of barrels of oil per year. Electrical energy can be produced for cogeneration or sale, and a reduced waste tire stream into landfills will be realized by diverting tires to the pyrolytic process.

ATTACHMENT 1

SITE LAYOUT PLAN



SOURCE: IRR WASTE TIRE PYROLYSIS, SITE LOCATION PLAN. PREPARED BY URS - 8/7/07.



APPROXIMATE SCALE IN FEET

TETRA TECH

LOUISIANA GREENTECH, LLC
960 F.P. BORDELON ROAD
COTTONPORT, LOUISIANA

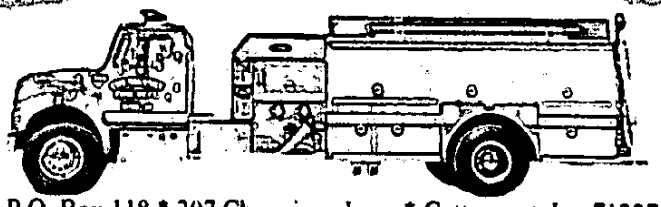
FIGURE 2
SITE MASTER PLAN

ATTACHMENT 2

ACKNOWLEDGEMENT LETTERS

Cottonport Volunteer Fire Department

Robert White
Fire Chief



Chris Lemoine
Asst. Chief

P.O. Box 118 * 307 Choupique Lane * Cottonport, La. 71327

December 4, 2007

Mr. Rubert Ward
President
Louisiana GreenTech
PO Box 1126
Cottonport, La. 71327

Dear Mr. Ward:

This letter is in response to your request for a letter of compliance and certification of premises and buildings.

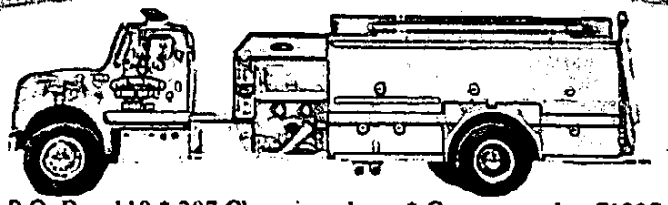
I have seen the site for the proposed Thermochemical Processing Facility and have discussed the operational plans and potential magnitude of the facility with Louisiana GreenTech. Please be advised that the Cottonport Fire Department will respond to any fire with all resources available

Sincerely,

Robert White
Fire Chief

Cottonport Volunteer Fire Department

Robert White
Fire Chief



Chris Lemoine
Asst. Chief

P.O. Box 118 * 307 Choupique Lane * Cottonport, La. 71327

December 4, 2007

Mr. Rubert Ward
President
Louisiana GreenTech
PO Box 1126
Cottonport, La. 71327

Dear Mr. Ward:

The Cottonport Fire Department has 25 members trained by LSU Firefighter Training for first responder Hazmat Awareness in accordance to NFPA 472 Life Safety Code.

The Cottonport Fire Department will respond to Louisiana GreenTech with the resources available and request assistance from proper authorities.

Sincerely,

Robert White
Police Chief

Acadian
Ambulance Service

NATIONALLY ACCREDITED

P.O. Box 98000 • Lafayette, LA • 70509-8000

EMPLOYEE OWNED

AMBULANCE DISPATCH 911 800-259-1111

ADMINISTRATION 337-291-3333 800-259-3333

BILLING 800-259-2222

December 5, 2007

Rubert Ward
Louisiana GreenTech, LLC
P O Box 1126
Cottonport, LA 71327

To Whom It May Concern:

We are in receipt of your request to respond as required by La. R.S. 30:2157 B acknowledging our ability to respond to a hazardous material incident at your facility located at 960 F.P. Bordelon Road, Cottonport, LA 71327. In response to that request Acadian Ambulance and Air Med Services has the ability to meet the response requirements of Section 473, Chapter 4 of the Life Safety Code of the National Fire Protection Association.

Should you have any questions or need additional information, please contact me at (318) 441-2262.

Sincerely,

Terry J. Arceneaux

Terry J. Arceneaux
Vice President - Operations

Louisiana GREENTECH

P. O. Box 1126
Cottonport, Louisiana
71327

November 14, 2007

Mr. David M. Mitchel
Chief Executive Officer
Avoyelles Hospital
P.O. Box 249
Marksville, LA. 71351

Dear Mr. Mitchel:

We are applying for a permit to operate a thermochemical processing facility in the state of Louisiana. Our permit is issued and enforced by the Louisiana Department of Environmental Quality, Solid Waste Division. There is an item in our permit application that requires your assistance.

Regulation 521.J.1 of the Solid Waste Regulations refers to R.S.30:2157B states, "The applicant shall obtain certification from the local hospital as to whether they (hospital) are able to accept and treat patients who are contaminated with hazardous materials".

Louisiana GreenTech will process whole tires and we must comply with this regulation. If this compliance letter can be written please address it to:
Louisiana GreenTech, LLC
P.O. Box 1126
Cottonport, LA 71327
Attn: Rubert Ward

If you have any questions about the regulations or our facility please call. Thank you for your assistance in this matter.

Regards,

Rubert Ward
President
Louisiana GreenTech
318-876-3327

Avoyelles Hospital

4231 Highway 1192
P. O. Box 249
Marksville, Louisiana 71351
Phone (318) 253-8611

November 19, 2007

Rubert Ward
Louisiana Green Tech, LLC
P.O. Box 1126
Cottonport, LA 71327

Dear Mr. Ward:

In occurrence that a patient from Louisiana Green Tech would be the subject of an emergency situation which requires an emergency acceptance and/or hospitalization, Avoyelles Hospital agrees to accept these patients and treat accordingly.

Sincerely,

David M. Mitchel

David M. Mitchel
Chief Executive Officer

DMM/cdb

APPENDIX D

LOUISIANA GREENTECH, LLC
PROCESS DESCRIPTION

Process Description

Integrated Resource Recovery

Louisiana Green Tech

Waste Tire Pyrolysis Project

August 2007

Integrated Resource Recovery
Waste Tire Pyrolysis Project
Process Description

Table of Contents

Integrated Resource Recovery
Waste Tire Pyrolysis Project
Process Description

1.0 Process Scope

Integrated Resource Recovery (IRR) plans to build a facility on an existing site near Cottonport, Louisiana. The process will convert waste tires into sellable products: Carbosite™ (various grades of finely ground char), oil, pyrolysis gas and scrap steel. Waste tires will be processed using a batch heating process where the tires are heated and decomposed in an oxygen deficient environment in a retort vessel. The process is referred to as pyrolysis. The equipment for the pyrolysis process cycle was developed from IRR test data by Surface Combustion.

The site is leased from Cottonport Monofill (CPM) and is approximately 16 acres of a 27 acres site. The active portion of the property is 786 feet East to West and 883 feet South to North (south section). A small berm separates the two parts of the property.

The facility will be operated by Louisiana Green Tech (LGT) and will include equipment for the following processes: tire feed systems, oil and pyrolysis gas recovery systems, char recovery and packaging systems, buildings, and utilities. The fine milling (grinding) system will be provided by others. Carbosite™, oil and scrap steel are to be sold. Pyrolysis gas recovered from the process will provide process heating. Excess pyrolysis gas will be flared.

The facility will be located in the northeast center of the property owned by CPM on property leased by LGT and is expected to be approximately 230 feet by 310 feet. Space is provided to the west for future expansion. Space is provided to the south for waste tire stockpiles, the stockpiles will be 200 feet long by 20 feet wide by 10 feet high. Stockpiles are separated by a minimum of 50 feet, with a setback of 100 feet from a property line. A minimum of three stockpiles will be provided; each stockpile will contain approximately 10,000 tires. Stockpiles will be situated on a base of rock or crushed concrete. A working stockpile of tires will be located at the front of the main process building.

The setback allows space for an in-plant road and both water and sewer lines (supplied by the City of Cottonport). The water line will have three (3) fire hydrants. Sewage from the main process building will flow to the sewer line at the southeast corner of the LGT site. Both potable water and fire protection water lines are to be connected to the City water line.

Waste tire receipts will be received from CPM Monday through Friday, from 7:00 AM to 5:00 PM. Loaded vans may be transferred after 5:00 PM by LGT staff. The LGT Plant tire baling unit operates two shifts per day, seven days per week. Open top vans are expected to contain approximately 750 automobile and light truck tires.

Normal requirements are slightly less than 4,000 tires per day or approximately six to seven van loads per day five days per week. Several additional van loads will be received to cover the weekend requirements; these tires will either be unloaded to a pad or left in vans and unloaded as required.

The plant will be sized to process 1,009,000 tires per year in normal operation and is expected to be on line 284 days per year. The pyrolysis train will operate 24 hours a day 7 days a week. The tire handling area will be in operation 2 shifts seven days a week and packaging area will be in operation one shift five days a week. The design basis for the plant is 1,400,000 tires per year with the plant operating 365 days per year.

2.0 Design Basis for Retort Products

The design basis for retort operation is as follows:

- Three retorts feed each oil and gas recovery train. Retorts within the same train will not be started up (fired) at intervals of less than 4 hours.
- No retort will be started up (fired) within one hour of the previous retort start.
- Normal operation will be the start of one retort every two hours.

The furnace control system is software protected to maintain this interval by the central controller provided by Surface Combustion, the furnace and retort supplier.

2.1 *Offgas Temperature*

The maximum offgas design temperature is to be 1,200° F.

2.2 *Design Pressure*

Process is assumed to be 2 psig at the compressor to provide a signal to the variable frequency drive. The 2 psig was used throughout the recovery system as a design basis. Nitrogen purge is currently at 8 psig per Surface Combustion.

2.3 *Maximum Operating Rate of the Oil/Gas Recovery System*

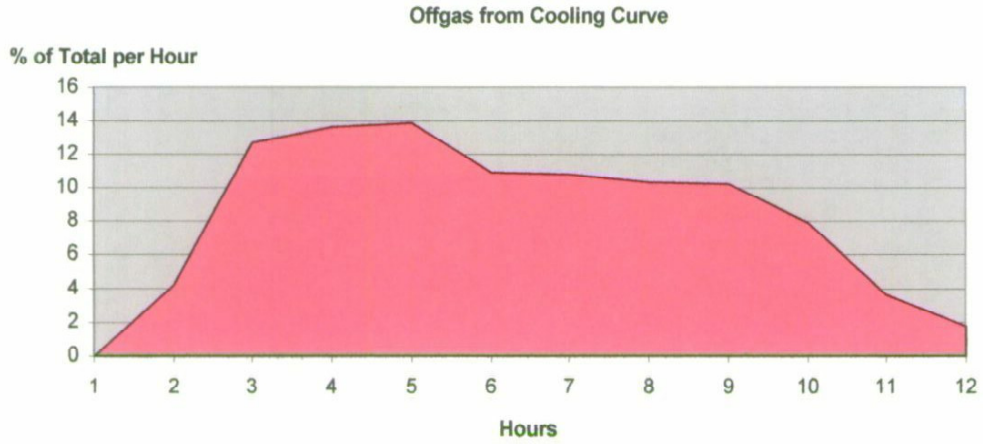
The maximum operating rate is 1.5 design factor x 12 retorts per day x 7,040 lb per retort. The design factor is to allow for variation in the oil/gas recovery system.

2.4 *Recovery of Oil and Gas*

The retort is to be operated not to exceed the maximum rates established by the cooling curve provided by IRR. The cooling curve information is:

Hours	*Percent Cooling*
0	0
1	4.21
2	12.73
3	13.59
4	13.85
5	10.90
6	10.77
7	10.34
8	10.21
9	7.89
10	3.64
11	1.82

Note: the cooling curve is indicative of the offgassing rate.



Integrated Resource Recovery
Waste Tire Pyrolysis Project
Process Description

Pyrolysis gas composition provided by IRR:

Hydrogen	29%
Carbon dioxide	3%
Carbon monoxide	4.9%
Methane	35%
Ethylene	6%
Propylene	3.6%
Total C4	5.4%
Total C5	5.9%
Total C6	8.2%

Based on the note (below) provided in the IRR scope, the pyrolysis gas composition was normalized after the addition of 0.81 wt% sulfur.

Note: Gas composition is off slightly, the total is 101%. This may be a typo or a rounding error. The sulfur content is expected to be 0.81 wt.%. Sulfur was not measured in the pyrolysis gas, but determined by difference between sulfur in the tires and sulfur in both the char and recovered oil.

2.5 *Oil Composition*

The boiling point curve provided by IRR is:

Initial	100°C	(212° F)
10%	140°C	(284° F)
50%	265°C	(509° F)
90%	355°C	(671° F)

2.6 *Design Composition*

Char	39%
Scrap Steel	13%
Oil	28%
Pyrolysis Gas	20%

2.7 *Cycle Time*

A total retort cycle will occur over a 12 hour period (including loading and unloading) for purposes of this design.

2.8 *Shifts*

Each shift will be 8 hours.

3.0 Design Basis for Tire Handling

The design basis is processing of 3,840 tires per day. This is based on normal operations of 12 retorts per day, 16 bales per retort and twenty 22 lb tires per bale. It is anticipated that each retort will accept 16 bales per load for a load weight of 7,040 lb per retort. Operations will be proven at this rate.

The future maximum potential load is expected to be no more than 16 whole bales and 4 half bales of 20 tires per whole bale with a tire weight of 25 lbs resulting in a maximum load of 9,000 pounds. Operations will be modified when necessary to meet this rate.

The baling process will be operated two, eight hour shifts a day, seven days a week. Capacity of the system is based on normal tire flow to the retorts. The baling rate is expected to be 8 bales per hour per baler, two balers will be provided.

4.0 Process Flow

The process consists of the following steps:

1) Tire Handling
2) Retort Operations (Batch)
3) Recovery of Oil and Gas
4) Char Handling
5) Coarse Grinding
6) (Place holder for Fine Milling)
7) Storage and Packaging
8) (Place holder for Cogeneration of Electricity)
9) Support Facilities
10) Utilities

4.1 *Tire Handling*

Tires will be received from CPM and unloaded onto the process building floor or directly into racks for placement in a retort. The receiving area will also allow baled tire receipts storage for up to two days feedstock (about 400 bales).

A bridge crane is provided to move the loaded racks from the staging area into an available retort, to return empty racks to the staging area and to move retorts between the fired heater and cooling chamber. The crane will be provided with a scale. As each lift of the loading rack is made into the retort, the rack and tire weight will be recorded by operator notation. The

rack number will have a corresponding tare weight. The net weight of tires will be available for manual entry into the Surface Combustion controls should this value be required. A second crane is to be installed.

4.2 *Retort Operations*

The retort is the removable chamber which is moved to a fired heater (furnace) and to a cooling station.

Type 309 stainless has been recommended by Surface Combustion as the material of construction (MOC) for the retorts. This MOC spec will be continued to the inlet of the first scrubber. A sufficient disconnect between the materials of construction is to be provided at the scrubber.

Retort operation will be three shifts seven day a week. Six fired heaters will be provided. Two cycles per day per furnace is the design basis. Removable retorts will be transferred to a cooling station for approximately four hours for final cooling. Five cooling stations will be provided. One will always be empty to accept a loaded retort.

The basic process consists of an initial nitrogen purge to provide an oxygen deficient atmosphere for processing, a short term firing of the burners during which oil and gas vapors begin exiting the retort, a soak process in which the volatiles continue to evolve, a final purge step and finally, replacement of the retort lid with a temporary lid and movement of the retort to the cooling station. The char and steel will be removed from the retort after cooling the contents from approximately 500°F to less than 140°F as required by OSHA for safe handling by personnel.

4.2.1 *Cycle Details*

4.2.1.1 *Loading*

Loaded racks will be moved with the bridge crane to an available fired heater (furnace) retort and the lid will be secured. The loading process is expected to take less than one hour.

The selected design requires 16 racks (minimum) to be in service. One set of 6 would be in the retorts, 4 in the cooling stations and 6 would be available for loading at any given time.

Each retort will be processed, provided with a removable lid (by Surface Combustion) and then moved to an available cooling station. The cranes will also move empty retort/

loading racks back to the fired furnace and will remove the tire rack from the retort and return it to the loading area.

4.2.1.2 *Initial Purge*

Air will be purged from the retort with 8 psig nitrogen until oxygen is removed from the system. The design basis assumes 5 volume changes. Nitrogen purity is expected to be 99.9%. The design includes an oxygen monitor in the purge exhaust line for confirmation that the purge is complete.

4.2.1.3 *Firing*

The pyrolysis process will require an initial heat input from the burner system. The firing rates are currently expected to be approximately 2 mmBTU for the first hour with a total firing rate of 3.08 mmBTU over a two to three hour period. Burners will be capable of handling pyrolysis gas or propane.

Surface Combustion will provide a recuperator for each retort to provide cross exchange of the incoming combustion air with the exiting combustion gasses. Surface Combustion will also provide a gas calorimeter so that pyrolysis gas firing rates may be adjusted based on actual heating values. Combustion gas temperatures exiting the recuperator are estimated to be 1200°F based on the 1850°F temperatures retort and cross exchange information provided by Surface Combustion.

Each retort will have a local control panel tied to a Honeywell PLC to control cycle starts. An additional PLC has been included in the project to provide system monitoring.

4.2.1.4 *Soak Cycle*

The soak cycle is defined as the non-fired portion of the process cycle. It is anticipated that the tire core temperature will be less than 500° F at the end of this cycle and that all volatiles will have been removed from the residual char/steel remains in the retort.

Offgas from the firing and soak cycle will be treated in the oil/gas recovery section. There is no water in the system per the design basis.

4.2.1.5 *Final Purge*

A final nitrogen purge will be performed to insure the removal of all combustibles from the retort (H2 and hydrocarbons). The design assumes 5 volume changes. In the current design, the purge will continue to the oil/gas recovery system to push the hydrocarbon laden gasses through the processing system with the last portion of the purge vented to the stack (TBV).

A H2/hydrocarbon analyzer will test the purge stream for any residual material. The final purge shall be performed immediately prior to lifting the cover and rotating it (removing) to the side.

4.2.1.6 *Furnace Lid Removal*

The lid of the retort will be lifted by rotating and replaced with a removable lid. It is expected that this operation will take 2 minutes. The internal tire temperature is approximately 500°F and the retort is nitrogen purged at this point. The retort fitted with the removable lid will be transferred via bridge crane to an available cooling station.

4.3 *Recovery of Oil and Gas*

Each set of three retorts will be provided with an oil/gas recovery system. This will consist of two spray towers circulating cooled oil. Oil condensed in the scrubbers will be removed to a storage tank by level control on the scrubber basin. On the recommendation of the environmental consultant, the tank volume is not to exceed 19,800 gallons and the oil temperature is not to exceed 175°F. Normal operating temperature of the oil from the 1st stage condenser is anticipated to range between 140°F and 165 °F.

The 1st stage scrubber is designed to handle 95% of the cooling/condensing load with the 2nd stage condenser to handle the remaining 5% load. Each condenser will have vapor entry just above the collection basin and a spray ring or rings in the upper portions of the condenser. Oil will be circulated from the basin, through a cooling water exchanger, back to the top of the condenser. Condensed oil will be removed from the system by level control in the basin.

Integrated Resource Recovery
Waste Tire Pyrolysis Project
Process Description

The 2nd stage condenser will provide final condensation and cooling and will have sufficient capacity to handle excursions in the 1st stage scrubber.

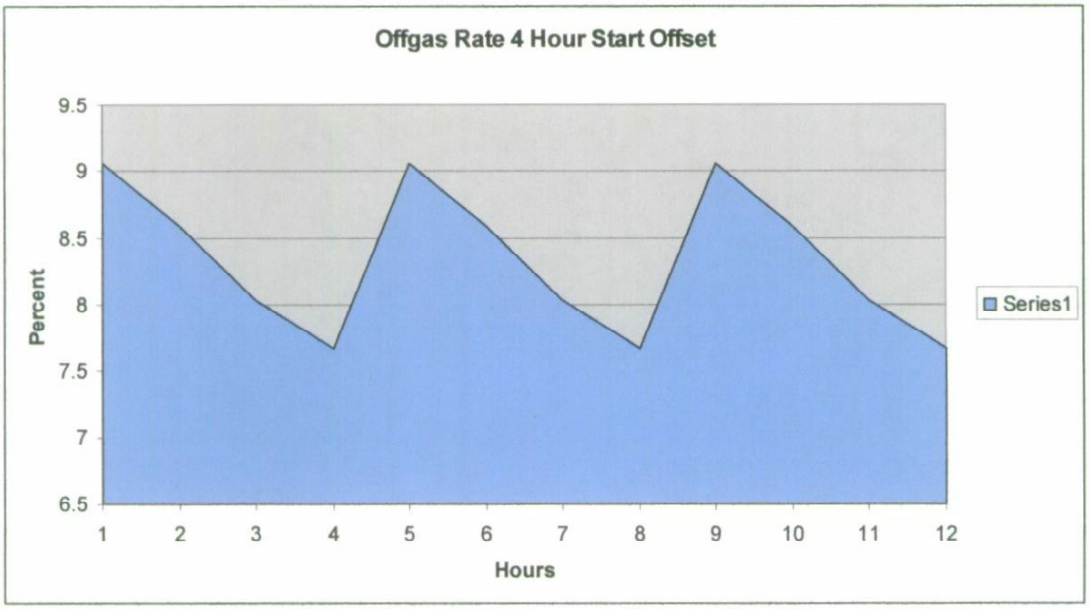
Safeguards in system include online spare pumps for both condensers and temperature monitoring. Exchangers for both condensers are of equivalent size as an additional safeguard.

Each oil/gas recovery system supports three retorts, and the startup cycle for the retorts determines the combined vapor rate. The design basis states that no two retorts within the same recovery system are to be started up (fired) within a 4 hour period.

The combined rate from the three retorts, in percentage of offgas per hour is as follows for each 12 hour period:

Hour	*Percent*
0	9.05
1	8.59
2	8.02
3	7.67
4	9.05
5	8.59
6	8.02
7	7.67
8	9.05
9	8.59
10	8.02
11	7.67

Note: Decimal place representation does not indicate a degree of accuracy



The maximum rate per hour to an oil/gas recovery system will be 1,376 lb/hr. This is based on a maximum hourly gas rate of 9.05 % of the total oil/gas loading (as shown above), retort loading of 7,040 lbs, three retorts per recovery train, a 1.5 design factor and a combined oil/gas fraction of the feed of 0.48.

4.3.1 *Cooling Requirements*

The oil and gas stream will be cooled with oil. Heat will be removed from the oil recirculation loop with a heat exchanger. Cooling tower water will be used as the cooling medium. The exchangers will be sized for TBD gallon per minute cooling water flow with a maximum 20°F rise. The two heat exchangers will be in series.

4.3.2 *Oil*

Oil will have a characterized analysis and be sold as is. This will allow the tank to be in service during loading operations.

The oil storage tank will be provided with a roof to prevent significant accumulation of rainwater in the diked area. Any accumulation will be disposed of via vacuum truck as a waste stream, or transferred to the wastewater holding tank. Provisions have been made in the oil tank for water to decant, but this is not in the design as a normal stream output. It is intended for cleanout purposes only.

Normal oil to storage will be 1,409 gallons per day (2,820 for the total system). Oil from the 1st stage scrubber, which is expected to be the majority of the oil, will be 155°F.

Loading facilities will utilize a 150 gpm pump. The line will be furnished with a mechanical meter. Manual check of the loading quantity shall be performed to prevent overfill.

A nitrogen blanket will be maintained on the oil storage tank to inhibit the possibility of combustion.

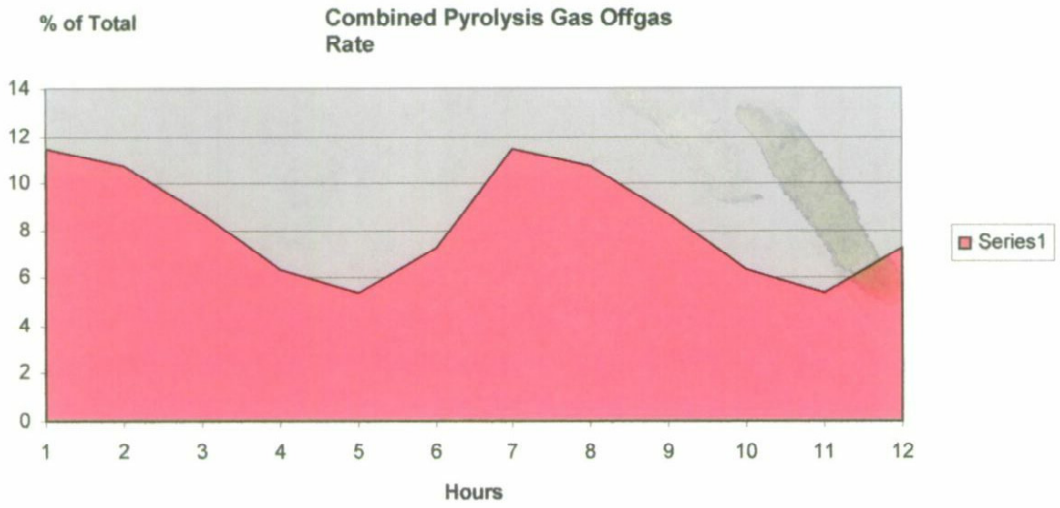
4.3.3 *Pyrolysis Gas*

The pyrolysis gas is to be utilized as a fuel source for the fired furnaces with the remainder will be flared.

Pyrolysis gas will be generated in all 6 retorts. There is at least a 1 hour minimum delay between retort starts. The gas generation curve is the same for one or two hour start delay.

The overall pyrolysis gas generation curve would be as follows for a 12 hour period:

Hour	*Percent*
1	11.47
2	10.74
3	8.75
4	6.37
5	5.39
6	7.28
7	11.47
8	10.74
9	8.75
10	6.37
11	5.39
12	7.28



The pyrolysis gas tank was sized for TBD gallons at 17 psig operating (TBD psig design) to absorb flow swings from the process. A compressor and surge tank will be required in the design. This design shall be verified in the final design. It is recommended that additional testing be performed to verify the pyrolysis gas analysis.

4.3.4 *Pyrolysis Gas Sulfur Removal System* (Place holder)

System requirements are being developed

4.3.5 *Cooling Station*

The retorts have been moved from the fired heater (furnace) to a cooling station. Each station is supplied with an 1,800 cfm air blower. It is expected that the cooling step will be approximately 4 hours. The char and steel remaining in the retort and are cooled to below 140 °F as required by OSHA for safe handling by personnel.

4.4 *Char Handling*

The char (at 39% of load) and steel (at 13% of load) remain in the retort. The steel will be removed by a magnet connected to the bridge crane and removed to a vibrating conveyor. Char will fall through the conveyor into a collection hopper and the steel will be conveyed to a scrap metal compactor. The compacted material is to be sold. It is expected that manual de-charring (manual percussion) will be used to free remaining char from the steel while in the retort, that 3% of the char will be removed with the metal and that two thirds of that material will be recovered from the

vibrating conveyor. The char vacuum system will be used during this process to provide suction to the conveyor vent hood.

Once the steel has been removed, the vent hood will be shut down and the vacuum hoses will be used to recover char from the conveyor collection bin and to vacuum out the retort. HEPA filters will be utilized on the blower and dust collection from the filters will be per Special Products procedures.

5.0 Grinding and Milling

5.1 *Coarse Grinding*

Char from the char vacuum system is expected to be 10-20 pcf. Rotary valves will be used to feed char through a grate magnet and then through a coarse grinder to delump the char. Char from this system is expected to be 8 mesh. Metal will be manually collected from the grate magnet which is expected to handle steel fines only and will be placed in the scrap metal compactor.

The coarse grinder will be operated intermittently 24 hours a day. Product will be conveyed to one of the two PV silos. PV is a term material which has been size reduced to minus 8 mesh but not been milled or ground or segregated by size.

5.2 ***Transfer to the Fine Milling System*** (Place holder)

5.3 ***Fine Milling System*** (Place holder)

6.0 Storage and Packaging

Packaging of materials will be in 25 lb and 50 lb sacks and in 700 pound polybags. Feed material will be packaged as loose powder. Each packaging system will have a feed hopper.

7.0 **Cogeneration of Electricity** (Place Holder)

8.0 Electrical

8.1 *Primary Electrical*

CLECO is the local utility provider.

Total connected load from the new facility MCC starters and breakers is the equivalent of 1,250 HP (TBV). A new 13.2KV/480V transformer will feed this equipment.

8.2 *Backup Electrical*

A propone fueled generator set will be installed for use in the event of a power failure. Only the equipment that must remain operational to affect a safe shutdown will be connected to this emergency system.

9.0 Support Facilities

9.1 *Special Products*

Carbosite™ 400 is an anticipated extra fine (submicron) product which will be collected from the HEPA filters by IRR proprietary methods. This product is not in scope and no special collection, recovery or handling operations or equipment have been included in the design.

9.2 *Warehousing*

Three semi trailer spots may be provided for product storage. Trailers are to be provided by others. Shipping is to be on a regular basis and significant inventory on site is not anticipated.

9.3 *Buildings and Facilities*

An operator enclosure will be incorporated into the retort process area. Also in this building will be two restrooms and a break room.

All lab testing will be performed by a company in an adjacent site and no lab facilities or equipment is being furnished as part of this project.

9.4 *Stack*

The stack is designed to accept all combustion gasses and uncontaminated purge gasses. Flow and temperature measurements will be provided. All other testing is to be performed by stack testing services and the results characterized for permit compliance.

Published data from the furnace burner manufacturer states that expected NOx emissions will range from 60 – 80 ppm while using propane.

Sulfur to the stack from combustion is approximately 0.8% by weight of the pyrolysis gas used as fuel to in the process. Normal gas production is 16,896 lb/day.

Design is for 1.5x normal production for:

7 day a week operation,
24 hours per day
284 days per year

Permitting will be based on 365 day/year operation.

9.5 *Flare*

Excess pyrolysis gas will be continuously flared. In addition, each retort, the pyrolysis gas tank, and the propane tank will each be provided with a safety relief to the flare.

9.6 *Instrumentation*

Instrumentation has been defined only in general terms. Instrumentation will be provided to safely operate the overall plant. The pyrolysis operation is a batch process, Surface Combustion, the supplier of the furnace/retorts is providing the instrumentation/control package for this specific operation.

10.0 Utilities

10.1 *Propane*

A propane tank (size to be determined) will be provided for operation of the fired furnace burners and for flare operation.

10.2 *Compressed Air*

All compressed air will be passed though a self regenerating drier and will be instrument air quality.

10.3 *Nitrogen*

Liquid nitrogen will be purchased commercially. Tank trucks of nitrogen will be unloaded into an on-site leased nitrogen tank, from which nitrogen will be drawn for use in the process.

10.4 *Potable Water*

The City of Cottonport will install a water line running along the south property line. The project will extend the water line to the processing area. This water will supply firewater, process, and potable water needs.

10.5 *Cooling Tower*

A one cell cooling tower sized for (TBD) BTU will be provided for the facility. The chemical tanks and pumps will be on a leased basis. The cooling tower pump and spare will be provided as part of the project.

Tower evaporation and drift are expected to be 8% to 9% of flow. Normal blow down will be 1 - 2 gallons per minute with up to 4 gpm to be expected depending on water purity. The design basis for the cooling tower blow down waste stream was 4 gpm. This would generate 5,760 gallons per day. A 12,000 gallon tank will be provided for wastewater storage. The wastewater will be transported offsite for disposal.

Potable water makeup is approximately 35 gpm and is available from existing site supply. The use of the existing well water will be considered.

10.6 *Fire Protection*

The water line installed by the City of Cottonport (See 10.4 above) will provide firewater supply for the facility. Fire hydrants and/or monitors will be installed as required for fire protection.

10.7 *Sanitary Waste*

The City of Cottonport will install a sewer line along the south property line as well as a lift station at the east end of the line. Sewage collection lines will be installed as required in the facility and will drain by gravity to the lift station.